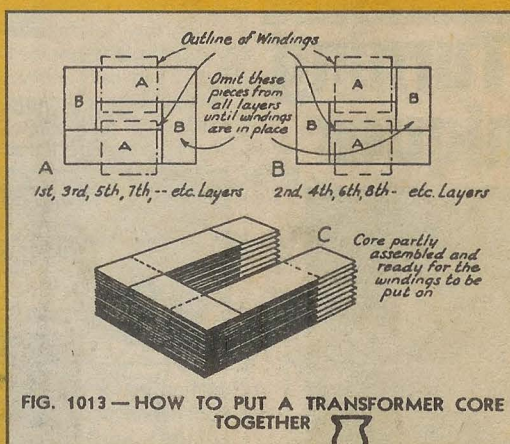
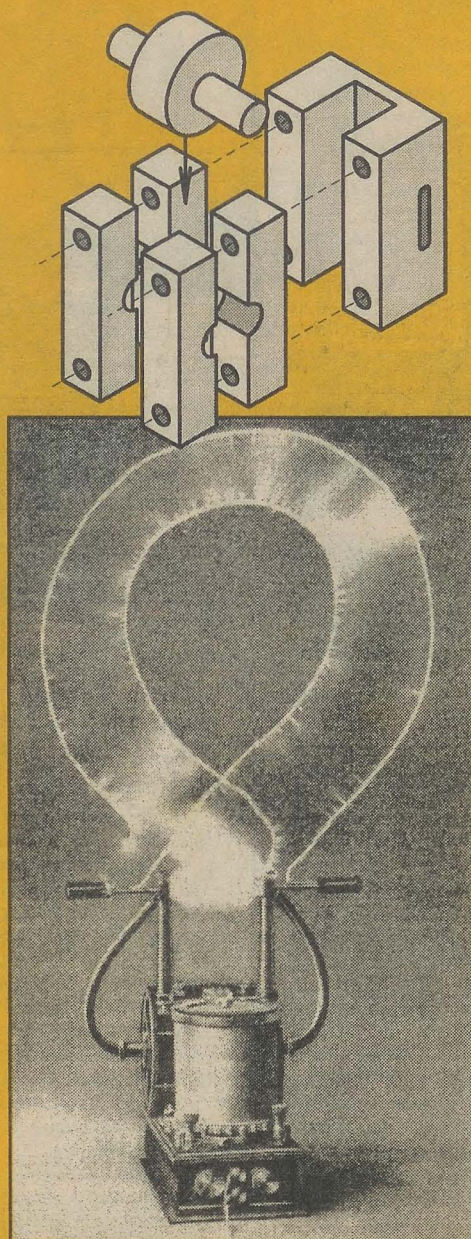


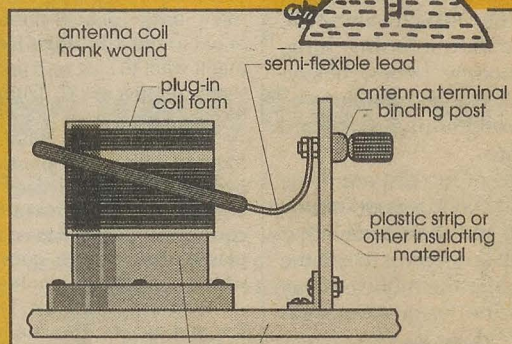
# SECRETS!

(...secrets you aren't supposed to know!)

Unusual technical books, past and present, of exceptionally high quality revealing skills and secret processes almost forgotten.



(above left) dog assembly from  
*Buxton's Circular Sawmill* page 7  
(left) Tesla Oscillation Transformer  
from *Strange Stories from Electrical  
Experimenter* 1917-1919 page 24  
(above) transformer core fabrication  
from *Those Great Old  
Handbook Receivers* page 27  
(right) generating apparatus from  
*How to Make and Use a  
Chemical Laboratory* page 19  
(below) antenna coupling method  
from *Secrets of Homebuilt  
Regenerative Receivers* page 29

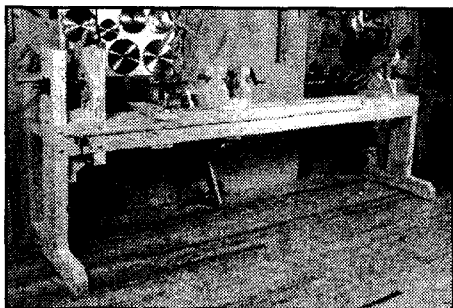


## LINDSAY PUBLICATIONS INC

PO Box 538, Bradley IL 60915-0538 • 815/935-5353



# ARTS & CRAFTS



## Wood Turning Techniques



### LATHES AND TURNING TECHNIQUES

by the editors of  
*Fine Woodworking Magazine*

Great articles reprinted from the magazine. Color photos throughout. Great info!

I counted 36 articles with titles like: production tips from an architectural turner, tool rests and turning tactics, boatbuilder's bowls, turning large vessels, lathe duplicators, efficient spindle turning, the Old Schwamb Mill, Vermont Turning School, chasing large wooden threads, economy lathes, heavy-weight lathes, the bowl gouge, woodturning chisels, chucks for woodturning, backyard timber, and much more.

A couple of articles of interest are those that will show you how to build a woodturning lathe: a beer-box lathe and shopmade lathes (a big one!). You really don't have to sell the kids to the gypsies to raise the money to buy a lathe. You can build one. Fascinating ideas from people who have done it.

Great how-to. Fun reading. More ideas than you can try in a month of Sundays. Get a copy. 9x12 softcover 127 pages

No. 5006

\$14.95



## Molding & Casting Handbook

The Prop Builder's  
**MOLDING & CASTING HANDBOOK**  
by Thurston James

Try this! Take a dead carp and make a couple two-part plaster molds before it starts to decompose. Then make urethane castings with the molds. These are the techniques that Hollywood uses to make props for movies.

This is a great book all about making molds and casts for theatrical uses. You'll learn about one- and two-part plaster molds, a two-part mold using the shim



method, molds from dental alginate and moulage, and a variety of molds using latex rubber, Silicone RTV rubber, injected Silicone molds and more.



You'll learn what type of release compound to use for each combination of mold and casting material.

Then you'll learn how to do absorption casting with latex and neoprene casting rubber. You can make papier-mache, Celastic and fiberglass casts. You can cast with hot melts such as wax, machinable wax, hot plasticine, hot melt glue, and hot melt rubber. You can make fake "glass" bottles to break over people's heads, or panes of glass to safely throw people through during a barroom brawl (or the Christmas family get together). You might want to cast with polyester resins, urethane foam, plastic wood, Durham's Rock Hard and more.

Then there is a whole section on vacuum forming with thermoplastics using a large, high-performance, home-made vacuum forming machine. You can watch as artists reproduce railings, cornice molding and even tile roofs in lightweight plastic sheeting. It's quite impressive. And the whole book shows you how you can do it, too.

Wall-to-wall photos. Detailed how-to. Hints, tips and secrets. This is a book on casting practically everything EXCEPT metal. Rare information. I think you'll really like it. You get your money's worth, and then some in my opinion. 8 1/2 x 11 softcover 236 pages

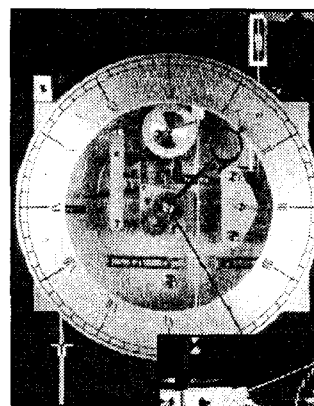
No. 1328

\$19.95

## Precision Clocks!

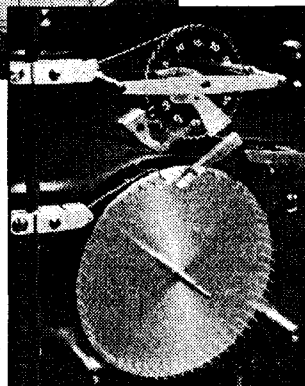
MY OWN RIGHT TIME  
An Exploration of Clockwork Design  
by Philip Woodward

"The pendulum is a constant source of interest to scientists. Great and well-known inventors such as Galileo, Huygens, and Kelvin all devised mechanisms to maintain its even oscillations. Others such as John Harrison, Lord Grimthorpe, and William Shortt are known only in horological circles cut contributed as much or more over three centuries. By writing a personal account of his own inventions and achievements in horology the author



involves the reader in the history of precision time-keeping before the advent of quartz crystals and atomic clocks. Escapements, the mechanisms that

drive pendulums, are a delight to the geometrical mind as well as the delicate and subtle challenge to the mechanical engineer. In their most refined form pendulum clocks not only



keep astonishingly accurate time but are also sensitive enough to detect the ebb and flow of tides and even the ceaseless quivering of the Earth itself."

This is an absolutely fascinating book about one precision machinist's quest for more and more accuracy from pendulum clocks. You have just got to see some of his escapements and gearless clocks!

Chapters include a horologist in the making, theory and practice, choosing an escapement, echoes of Hope-Jones, Harrison and Congreve, silence for a cellist, going without gears, disturbed harmonic motion, the phase circle, the Shortt free pendulum, aiming too high, W5, error correction, noise modulation, the enigma of flicker noise, Wallman's conjecture and clockwork with a difference.

Woodward is an engineer, physicist and mathematician. And what a book he has created! What clocks! I've never built a clock, but after reading this, I'm fired up to start. Get a copy and see what you think. It's British and expensive, but what beautiful machines this book reveals! Well illustrated. 8x10 hardcover 166 pages

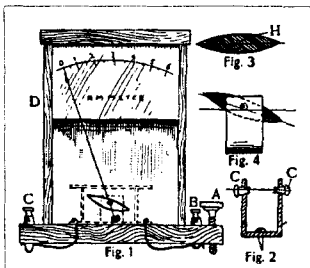
No. 1386

\$45.00

# ARTS & CRAFTS

# The Boy Mechanic

Two jam-packed project books for boys!



## BOY MECHANIC - BOOK 1

compiled by H. H. Windsor  
reprinted by Lindsay Publications

"700 Things for Boys to Do. How to construct wireless outfits, boats, camp equipment, aerial gliders, kites, self-propelled vehicles, engines, motors, electrical apparatus, cameras and hundreds of other things which delight every boy."

You get wall-to-wall projects that in most cases are not too detailed, but are more than enough to whet the appetite and make you want to get started. Build a Wright-brothers style glider! A

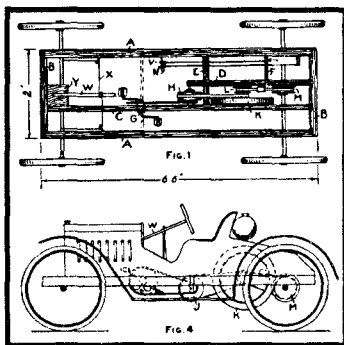
## Volume 2

### BOY MECHANIC BOOK TWO

reprinted by  
Lindsay Publications

"1000 things for Boys to Do. How to construct devices for winter sports, motion-picture camera, indoor games, reed furniture, electrical novelties, boats, fishing rods, camps and roller appliances, kites and gliders, pushmobiles, rampcoaster, ferris wheel and hundreds of other things which delight every boy with 995 illustrations."

Learn how to do plane-table surveying and make accurate maps. Once you've mastered that, you'll be shown how to do the same job from carefully taken photographs. Make a four-passenger bobsled, and ice glider, snowshoes, snowball thrower, paddiewheel boat, tandem monoplane glider, movie camera and projector, laboratory gas generator, soap box racer, oil burner for cook stove, combination lock for a drawer, magic tricks, electric score board,

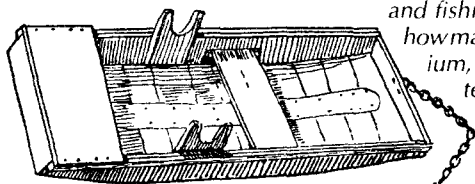


## AMERICAN BOYS HANDY BOOK

by D. C. Beard

"If Huckleberry Finn were to settle down, somewhere out there in the territory, and decide to become an author, he might very well come up with a book like this one..." — Washington Post Book World

"The Handy Book was the perfect survival manual. It contained plans for 16 kinds of kites and hot-air balloons and fishing tackle. It told you how make and stock an aquarium, to construct a water telescope and how to camp out without a tent. Or in a hut made from pine



## American Boys Handy Book! 1882 Classic!

boughs. How to build 10 kinds of boats, including a flatboat with a covered cabin. Ice boats, too. One-person canoes. Bird calls. Squirt guns with astonishing range and authority..." — Henry Kisor, Chicago Sun-Times

As a kid I read an original copy in our small town library. This is a classic book. Get a copy! 5 1/2 x 7 1/2 softcover 441 pages

No. 6034

\$12.95



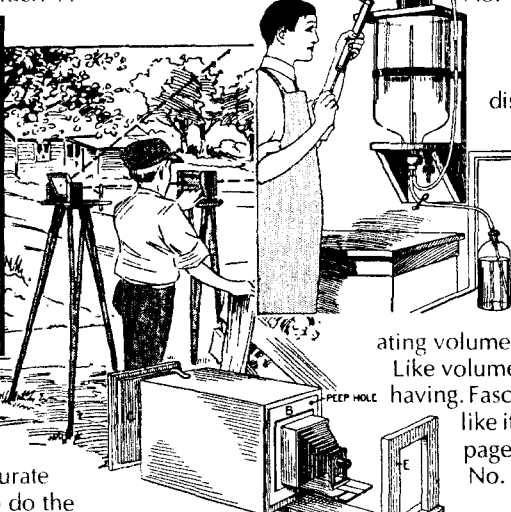
Wimshurst machine! An arc light! An electric stove! A toy steam engine! A telegraph key! A water rheostat! An alarm clock chicken feeder! A fiat bottomed boat! An induction coil! A library table! A machine to put paraffin on wire! A pipe fitting steam engine! An electric postcard projector! An ammeter! A paper hot air balloon! A workbench!

You'll find information on imitation arms and armor, magic tricks of all kinds, chair carting, sundials, homemade phonographs, gymnasium equipment, an ice yacht, a pipe fitting lathe, a paper boat, a cross bow, an electric motor, glass blowing and much, much more.

Many people have asked us to reprint the Boy Mechanic. One look through it, and you'll see why. It's a combination of practical projects, not-so-practical projects, crazy ideas, and plain ol' fun nostalgia. 1913 edition. It's a classic book well worth your consideration. Order a copy today!

5 1/2 x 8 1/2 softcover 469 pages  
No. 4880 \$18.95

Fig. 4—Pouring the Metal



disc-armature motor, and hundreds of other things.

You get wall-to-wall illustrations. You may attempt only two or three projects, but that's okay You'll have countless hours of fun just browsing through this idea-generating volume from 1915. It's great.

Like volume one, this is a classic worth having. Fascinating! Order a copy. You'll like it. 5 1/2 x 8 1/2 softcover 473 pages

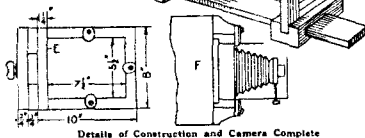
No. 20676

\$18.95

### SPECIAL HARDCOVER EDITION VOL 2

No. 20684

\$29.95



Details of Construction and Camera Complete

# ARTS & CRAFTS

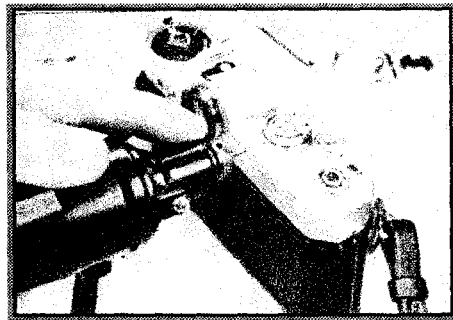
## CAMERA MAINTENANCE & REPAIR

by Thomas Tomosy

Cameras are complex devices but many, many problems can be solved quite simply. This book won't necessarily put you in the camera repair business, but you WILL be able to make many repairs.

Chapters include how to use this book, what will you need, important rules and precautions, shortcuts, dos & don'ts, design considerations and characteristics, mechanical cleaning and lubrication, optical cleaning, cosmetic cleaning (exterior face lift), general disassembly and repair methods, accessories and how to maintain them, testing camera functions without instruments, simple diagnostic tools and methods, test instruments you can build, where to find parts and supplies.

Part two will take you through 31 different cameras including the Olympus OM-1, Pentax Spotmatic, Kodak Stereo, Canon AE-1, and even a Hasselblad. In addition parts three and four will give you additional hints on other cameras, tips, charts, and reference material.



## Repair Cameras!

written by a European trained master camera technician

Once in the military in Germany I bought a bunch of old cameras for 25¢ each from a scavenger at the local city dump. The shutters didn't work, at least, until I dismantled, cleaned, and lubricated them. I've taken far better pictures with my 25¢ wonders than most people will ever hope to take with even the most expensive camera.

Used cameras are all over the place. Pick one up for a song, repair it, and use it (or give it to some creative kid as a gift...). You can't possibly become an expert with just this book. But it will get you started, and I think you might be surprised at the results you get. 8 1/2 x 11 softcover 172 pages

No. 5012

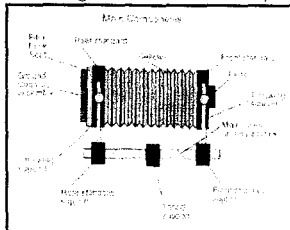
\$24.95

# Build a View Camera!

## BUILD YOUR OWN VIEW CAMERA

by Bert West

This is a small book, self-published, with a hefty price tag. But what you get is rare information. You'll be shown how to build a working view camera. (If you haven't gotten



beyond an autofocus 35mm camera, I had better explain that a view camera is that "old-fashioned" camera with the bellows that have been and still are used by the masters of photography. They're not really old-fashioned. They're the best.)

West will teach you how to make the front standard and lens board, all the tricks of fabricating a bellows, the ground glass assembly, the main support rail, and the other smaller components. He'll also show you (very briefly) why a view camera is so much more powerful than a handheld camera.

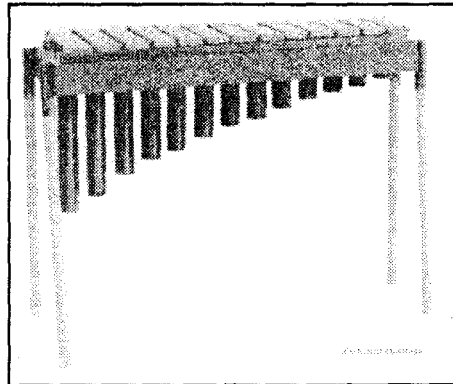
You'll still have to buy a lens, but you can get one fairly cheaply to get started. Some of Ansel Adam's finest, most popular photos were taken years ago with lenses that now sell inexpensively on the used market. You'll also need cut film holders. West suggests sources of supply.

The only really critical part of building the camera is getting the ground glass mechanism precisely aligned. But West shows that even this operation is not that difficult. You don't need to be a technical wizard to produce a quality working view camera for a fractional of the cost of new unit.

You get lots of photos and drawings. A word of advice: I've seen similar books on unusual topics come on the market sell for a while and then disappear because demand was not strong enough to print more. This might be one of them. It's here today, but will it be in five years? Not a bad book. And certainly not a bad camera. Get a copy, and start building. 5 1/2 x 8 1/2 softcover 112 pages

No. 5020

\$19.95



## Simple Musical INSTRUMENTS

### SOUND DESIGNS

#### A Handbook for Musical Instrument Building

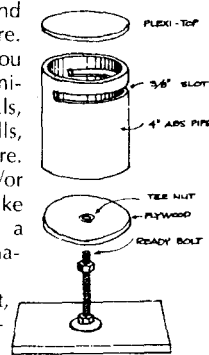
by Banek and Scoville

This interesting book disappeared, but is back in print, at least for a while. These simple, fun projects can get you a lot of attention, maybe more than you want if you play too loud.

Build wooden instruments: temple blocks, boobats, amadindas, bull-roarer, an organ pip, willow whistle, and more. You can use wood and metal: redwood marimba thumb piano, aeolian harp-zither, thundersheet and wobble board, and more. With metal and torch you can make cowbells, aluminum claves, finger cymbals, gongs, artillery shell bells, oxygen tank bells, and more. With skin, plastic, and/or glass you make things like tube drums, pan pipes, a funnelodeon, a crystal marimba, and more.

Some of these, no doubt, just make fancy noise. Others will allow you to play melodies. Build them all become the Spike Jones of the 90's! Interesting book. Well illustrated. Simple projects for all ages. It was a good seller the last time we offered it. Consider it carefully. 6x9 softcover 212 pages No. 407

\$11.95



## House Your Bird!

### COMPLETE BOOK OF BIRDHOUSE CONSTRUCTION

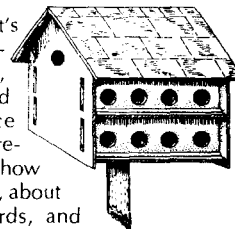
by Scott Campbell

Build a birdhouse! It's easy. Learn about designing the roof, cleanouts, drainage and ventilation, entrance holes, the interior, the requirements of the birds, how to support a birdhouse, about inspection, pest guards, and more.

When your children or grandchildren ask you how to build a birdhouse, you don't have to admit you don't know how. Whip out this booklet and get underway. Or give it to them as gift. Dirt cheap! Good! 5 1/2 x 8 1/2 booklet 48 pages

Cat. no. 6010

\$1.95





## Homesteading & Survival

### WINDMOTORS

by F. E. Powell  
reprinted by  
Lindsay Publications

Put the wind to work with one of these turn-of-the-century designs.

You'll learn about different types of windmills, some of them unusual. Then you'll be shown how to build a model tower windmill similar to those in Holland.

Chapter 3 will show you how to build a real power-producing windmill with three foot diameter sails. It may be a small windmotor, but it can drive a small dynamo. You

# WINDMOTORS

get all the important design details.

In Chapter 4 you are shown how to build a 6 foot diameter windmill capable of driving a 30 watt dynamo at 16 mph. You'll see many detailed drawings showing how the all-wood machine is built, and how metal gearing brings the power down to ground level.

Another chapter reveals a 10 foot diameter windmotor. The last chapter gives you tips on generating electricity—high tech in 1910! Obviously better generators are available now, but the basic principles still apply, and the control methods still work.

I think you'll enjoy this book. These mills may not be as hot as modern designs, but building one of these babies should be relatively easy and low-cost. You get great designs from a simpler time when simpler materials were used to get surprisingly good performance.

A really nice little book to have. Low cost. Get a copy.

5 1/2 x 8 1/2 softcover 88 pages well-illustrated  
No. 4279

\$6.95

# WINDMILLS

**SAMSON OIL-RITE WINDMILLS**  
by Stover Mfg. and Engine Co.

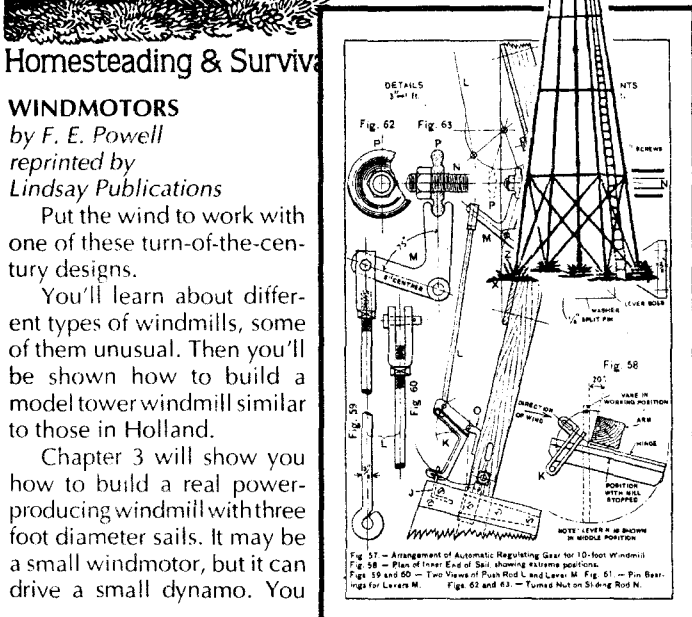
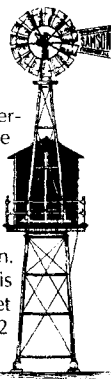
Just about every farm at the turn of the century located in the Midwest and Plains states had a windmill to pump water for livestock. Here's the sales catalog for one of the leading manufacturers of those mills.

You'll see all the mechanical details: the gears, bearing, vanes, pumps, and the rest. And you'll get complete specifications.

If you're interested in wind power, this is a great reference, since these

mills were built to perform and last. I'm sure many are still in operation. If you're going to design your own windmill, it might pay to look at a proven design. And besides, the price is right. 8 1/2 x 11 booklet facsimile reprint 22 pages

No. 2011 \$4.95



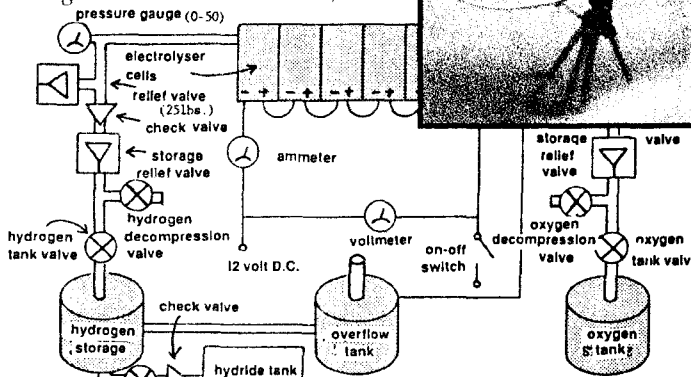
# Fuel From Water

Energy Independence with Hydrogen

### FUEL FROM WATER

by Michael A. Peavey

Here's the best book of its type that I've seen yet. You'll read about hydrogen generators, storage devices, modifications of autos for using hydrogen fuel, the hydrogen homestead and more. You get lists of manufacturers, other



books, and sources of additional information.

Chapters include electrolysis production of hydrogen, chemical hydrogen production, fuel from trash, storing hydrogen, engine modifications, electricity from hydrogen, stationary applications, safety and the hydrogen economy.

You get both practical how-to and lots of commercial how-to that might be too expensive or difficult for you to use. But even the high end equipment will offer ideas that you might be able to use.

Hydrogen can be useful not

only for powering automobiles and other engines, but it can be used to store energy generated by windmills. Why store electricity in lead-acid cells if you just want to heat your house? Burn the hydrogen in a motor-generator unit to convert it back to electricity when needed. These are some ideas to consider.

Excellent book. Great theory. Great ideas. Loads of useful illustrations. We've sold countless copies of this book over the years. Rare information. Get a copy. I think you'll like it. 8 1/2 x 11 softcover 250 pages

No. 2010

\$19.95



Homesteading & Survival



## Wheelwright!

THE VILLAGE WHEELWRIGHT  
by Jocelyn Bailey  
Shire Series No. 11

Another look at early British technology. "...the term wheelwright was commonly applied to craftsmen whose work also included making field gates, coffins and much else besides. This book describes and illustrates the many aspects of their work: the layout of their shop; the timber they used and sawyers who cut it up for them; the waggons they built; the making of wheels and the tools they used...."

Can you take a tree and turn it into a wagon wheel? 5 1/2 x 8 booklet 32 pages  
No. 6087 \$4.25

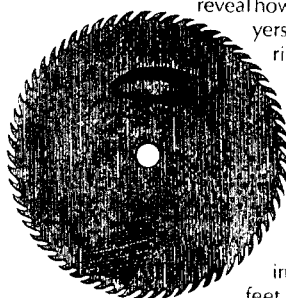


## CIRCULAR SAWMILL BLADES

reprinted by Lindsay Publications

These pages, reprinted from two different 1880's books, will show you how to make, set and true up circular saw blades. You'll get a brief lesson on setting saw teeth and on hammering a bent circular saw blade back into truth — only a few pages long but the best explanation I've been able to find yet.

## Circular Sawmill Blades



Pages from the second book "Leffel's Construction of Mill Dams and Bookwalter's Millwright and Mechanic" from 1881 will reveal how two different sawyers of 30 years experience take a sheet of steel and layout a 50" circular sawblade from scratch. This method produced blades able to saw, before resharpening, as much as 4500 feet of bark-covered hardwood taken from the Missouri river still embedded with sand and grit. And you also get another set of brief instructions on hammering a blade back into truth.

Rare information! Anyone even thinking of building or running a sawmill MUST have this. The original books cost me a fortune, but your cost is practically nothing when you consider the rarity of the information. Order a copy! 5 1/2 x 8 1/2 booklet 22 pages  
Cat. No. 896 \$3.50

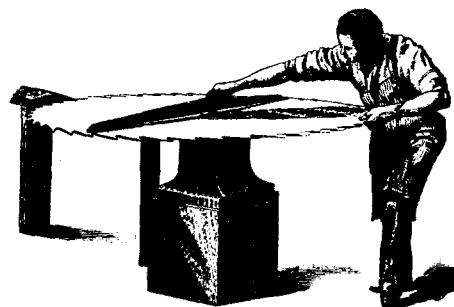
## Homestead!

Tell the Boss to Shove It!



FIVE ACRES AND INDEPENDENCE  
by M. G. Kainb

Tell the boss to hang it, and move to the open country and homestead! It's possible. This reprint of the 1935 original will show you as it did thousands during the Depression how to survive comfortably on five acres. You'll learn about greenhouses, coldframes, soil, manure, fertilizers, compost, tools, weeds, orchards, pruning, grafting, seeds, transplanting, berries, things to sell every day, grapes, storage, and much more. There's so much info here at such a low price, you can't afford not to have a copy. 397 pages 5 1/2 x 8 1/2 paperback  
Cat. no. 608 \$7.95



## LUMBERMAN'S HANDBOOK

HANDBOOK FOR LUMBERMEN

by Henry Disston & Sons, Inc

"For over 100 years Henry Disston & Sons was America's leading sawmaker the standard by which all others were measured. Among its most important products were the band, and circular and crosscut saws used throughout the lumber industry. The Disston Handbook for Lumbermen describes and illustrates these products in great detail and, most importantly, explains how they were used, maintained, and installed. It became the bible of the industry. In this reprint of the 1902 edition are sections on filing and setting of teeth, tensioning, fitting, and aligning, supplemented



with illustrations, diagrams and charts that provide a complete coverage of the subject."

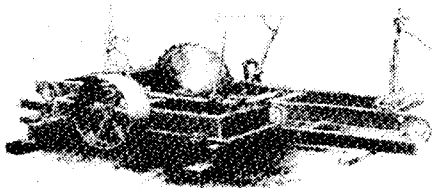
You get a great tool catalog loaded with illustrations that not only taught to sell lumbermen Disston saws, but it also showed them how to determine what saw was needed, what the differences between saws were, how to maintain them, and much more. I offer this because the info on hammering and adjusting large circular saws is among the very best I've seen.

If you like tool catalogs, you'll like this. If you have or dream about owning a circular sawmill someday, you must have this. Beautiful old book covering beautiful old technology. Get a copy. 6x9 softcover 162 pages  
No. 1397 \$17.50

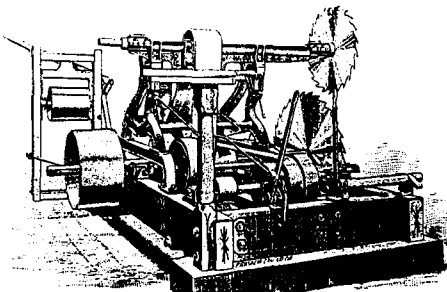




## Homesteading & Survival



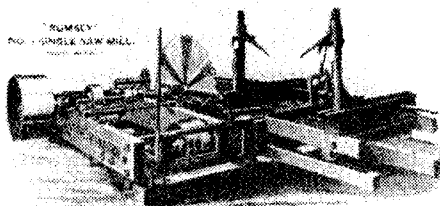
# Circular Sawmill



## THE CIRCULAR SAWMILL

by Chuck Wendel

All but the last few pages here are filled with dozens and dozens of illustrations of sawmills the author has gleaned from his extensive reference library. You'll see saws in alphabetical order manufactured by Allis-Chalmers through Westinghouse Machine Company. In the last few pages you get chapters covering setting up and checking the sawmill, hammering and adjusting circular saws, mechanics of the sawmill, model sawmills, and a bibliography.



This is a picture book, but there's much to be learned from the great illustrations if you have a sharp eye for mechanical detail. Great book for the builder, owner, operator, historian, and the guy who wants to tie his mother-in-law to a log. Get a copy! 8 1/2 x 11 booklet 68 pages

No. 1299

\$9.00



# Build a Circular Sawmill

## BUILDING A CIRCULAR SAWMILL

by Richard Buxton

Remember the Waltons on TV? They ran that sawmill on a mountain in Virginia during the Depression. Well, here's a modern day Walton who lives on a mountain in Virginia. But he's a little sharper than John-Boy. He built the sawmill, and here he shares with you what he learned the hard way.

He'll show you how to pick the site; lay out the wooden frame; put in the foundation; install the rails; build the carriage, headblock, knee, set works and dogs; fabricate a drive assembly for the carriage; modify a power plant; install and adjust the blade; and more.

Buxton's machine has a 24' x 38" bed with 52" diameter sawblade driven by an old Volkswagen Beetle engine. The carriage drive is a separate electric drive. This is a proven sawmill that has been used extensively.

This is not a simple project, but it's not impossible either. It requires welding, a lathe, an aluminum foundry, and the knowledge to use them. A milling machine would probably be useful, too. You certainly aren't going to build this in a single weekend.

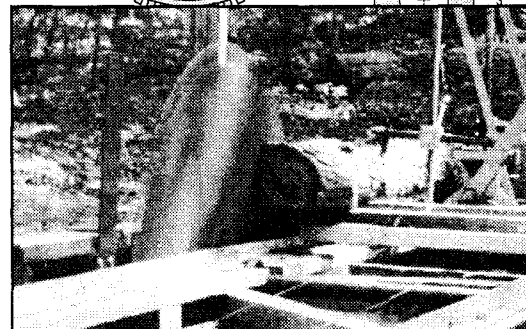
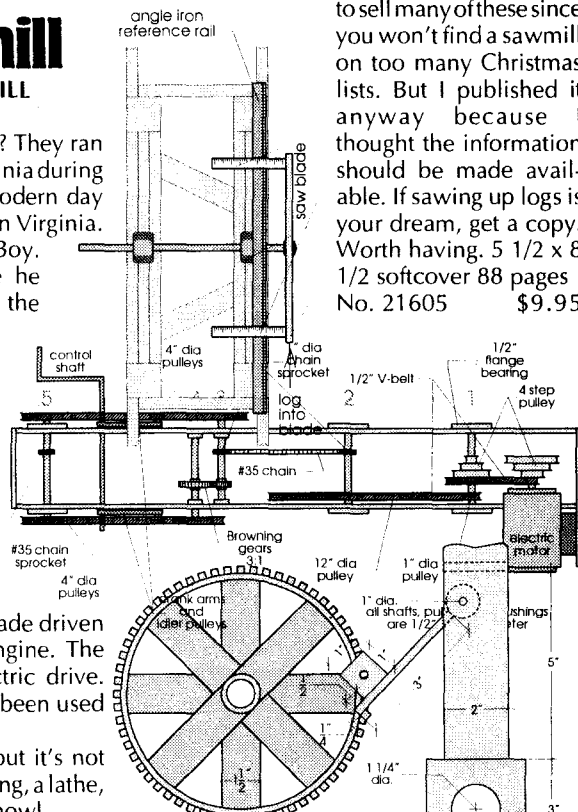
The materials you will need are common angle iron, drill rod, belts, pulleys, key stock, standard bearings and so on. The only unusual item is the sawmill blade, and he'll give you tips on what to look for in buying a used one like he did.

You get many drawings and pic-

tures. But I must warn you, this is neither a step-by-step how-to manual, nor is Buxton a world-class writer. What you get here is story of how one high-energy high school shop teacher creatively adapted what he could find to build a high quality circular sawmill on the cheap as told in his own words. He'll tell what he did right, and what he should have changed. He expects you to have at least basic mechanical skills and to view his mill as the starting point for your own. He doesn't expect you to build a duplicate. In essence, this is a detailed mechanical report for people who are thinking of building their own sawmill. (And the truth is, if you're not knowledgeable enough to take what he's given you here and build a sawmill, I certainly don't want to be around the first time you fire the thing up!)

This is a valuable little book by someone who has done it. Successfully. It may not win a Pulitzer, but this is a book loaded with unusual info that can only be attained by doing it. And for the guy who wants a sawmill, this is a must-have. I really don't expect

to sell many of these since you won't find a sawmill on too many Christmas lists. But I published it anyway because I thought the information should be made available. If sawing up logs is your dream, get a copy. Worth having. 5 1/2 x 8 1/2 softcover 88 pages No. 21605 \$9.95



# Computer Projects

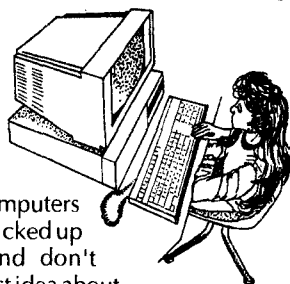
*For kids like us who are learning*

## COMPUTERS

### 49 Science Fair

#### Projects

by Bonnet & Keen



If you'd like to get your kid interested in computers or you've just picked up a machine, and don't have the slightest idea about programming in BASIC. Here's a book that delivers 49 different projects.

*"Fun and creative, the programs are completely functional, yet are purposely designed for students to use as springboards for more sophisticated applications..."*

You get very simple programs that deal with games of chance, aircraft design, sorting and filing data, calculating energy costs, making mathematical conversions, calculating odds, forecasting weather, and much more.

If you're computer illiterate, get hip. This is for junior high kids, but I won't tell anyone if you use it to get started in computers. It's a great place to start. And if nothing else, these make great science fair projects. 7 1/2 x 9 1/2 softcover 174 pages

No. 5018

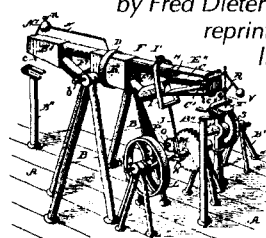
\$10.95

# Perpetual Motion

## FIFTY PERPETUAL MOTION MECHANISMS

by Fred Dieterich

reprinted by Lindsay Publications



The author was a patent attorney who wrote a book in 1899 covering the process of securing a patent.

One short section

of his book covers perpetual motion inventions which are unpatentable. Dieterich, who was outraged by claims of perpetual motion, presents drawings of 50 different mechanisms. No doubt, you've already seen a number of these, but others are unique, and all are interesting.

You'll see the Marquis of Worcester wheel, the Horace Wickham machine, the 1868 device of Dr. Drasch of Austria, an electric device, the self-moving railway, the Orfyreus 1720 wheel, a complicated water screw, and others.

Maybe you're trying to build a machine and want to avoid previous failures. Or you're a skeptic and want a good laugh. Whatever, the material is interesting and the price is low. Get a copy. You'll like it. 8 1/2 x 5 1/2 booklet 22 pages

No. 898

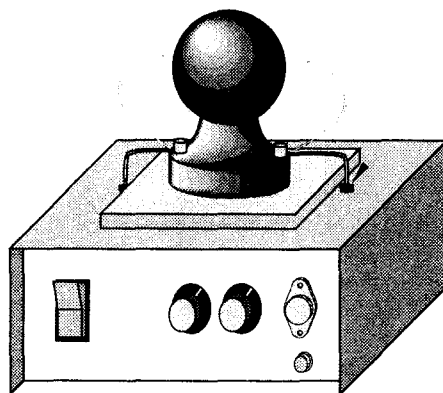
\$3.75

## HOW TO BUILD A 40,000 VOLT INDUCTION COIL

by Walt Noon

Are you looking for a fast and simple way to generate high voltage? Try this.

The ignition coil in your automobile is the modern equivalent of an old time induction coil. It is nothing more than a transformer that converts low voltage into very high voltage. The points in your automobile replace the old fashioned spark gap. Every time the points open, a pulse of DC current hits the coil like a hammer hits a bell. The ignition coil "rings" like a bell and produces a burst of high voltage. If you "hit" the coil fast enough, the ringing seems to be continuous.



## Build a 40,000 Volt Induction Coil

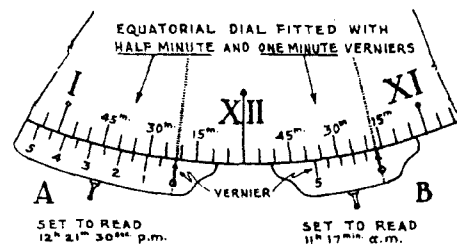
Walt Noon's circuit here replaces the spark gap and the points with a low cost solid state circuit centered around a 555 timer IC. The circuit takes 110 VAC out of your wall and converts it into a string of DC pulses. The pulses are sent to the terminals of an ignition coil that you can purchase at your local discount store. Off the high voltage terminal comes a solid 40,000 volts that can be used for a variety of experiments including plasma globes and Kirlian photography.

You get drawings of the unit, parts list, circuit diagram, photos and assembly instructions for the coil. You are expected to have at least some experience building modern electronic equipment with perf board. You get hints, tips and suggestions on where and how to make circuit modifications. You also get eight different experiments plus extensive details on Kirlian photography with a modified 35mm camera.

Get a copy of this and shock the pants of your friends. It's unusual and they will be amazed. Well written and to the point. Get a copy. 5 1/2 x 8 1/2 booklet 24 pages

No. 844

\$4.95



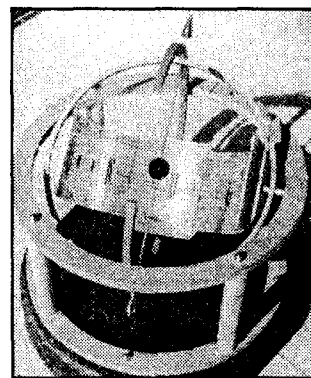
# Build a Sundial!

## SUNDIALS

### THEIR CONSTRUCTION AND USE

by Newton & Margaret Mayall

In recent years we've offered a simple, low-cost book on building sundials. Here's a reprint an 1938 original that provides even more unusual information. The price is higher, but the information is top quality. And you won't exactly find this on the newsstand.



Chapters include the development of the sundial, why the sundial telltime, how to design and make a dial, selecting the dial to make, parts of a dial you should know, time and standard time dials, how to lay out

the hour lines, dial furniture, how to lay out the lines of declination, portable sundials, variable center dials, the heliochronometer, sundial classification, interesting dials of the world, hunting sundials, and an appendix of valuable design formulas.

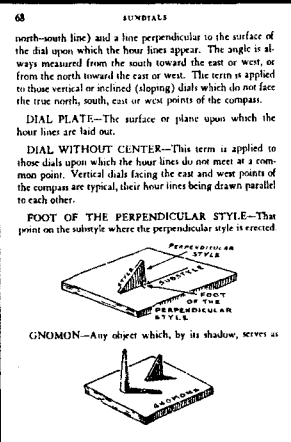
Sundials are interesting devices. They have no moving parts. You need no great collection of tools. In fact, some are so simple you can build them out of cardboard if you wanted. Some are beautiful works of metal sculpture that look very mysterious and will baffle your friends. The truth is, you need to know more about using a compass and protractor than anything else.

Yes, sundials are simple devices, but the theory behind building accurate useful time pieces can be challenging fun. Something to try. If you're

into building sundials or collecting and restoring, this is something you must consider. Heavily illustrated with photos and drawings. Great how-to. Get a copy. 5 1/2 x 8 1/2 softcover 250 pages

No. 787

\$14.95





# Make Molds for Auto Bodies, Boat Hulls, & More!

## ADVANCED COMPOSITE MOLD MAKING

by John J. Morena

If you want to mass produce a fiberglass auto body or boat hull or just make a few replacement fenders for an antique car and sell them, you'll need a mold upon which to lay-up the part. If you're really a hot-shot you may want to fabricate an experimental airplane you've designed using carbon-graphite fibers. It doesn't matter how big or how small your project is, you'll need a mold. And here's a dynamite book on building molds.

From the dust jacket—

"...Exceeding all other available works in scope and new-method coverage, this all-in-one resource guides you through the manufacture of both metallic and nonmetallic molds used to form or bond advanced composite parts and assemblies. It provides detailed instruction on how



to use each kind of mold-making material and execute each mold-making process.

Step by step you will see how to use innovations such as computer-aided design and manufacture of molds and tools... preimpregnated laminate fabric materials, and mass casting compounds that can be heated to 3000 degrees Fahrenheit... techniques for making metal-faced laminate tools...and reusable vacuum bagging methods...

Unequaled coverage of a wide range of mold materials enables you to select the material most suitable to your project. Clear guidance is given on how to use epoxy, polyurethane, plaster, wood, ceramic, reinforcements such as fillers, graphite and fiberglass, laminated phenolic, formed and machined aluminum and steel, electroformed nickel, and many other materials to make high-quality advanced-composite molds.

You can depend on *Advanced Composite Mold Making* for all the design and engineering guidance necessary for making molds for producing high-quality advanced composites...

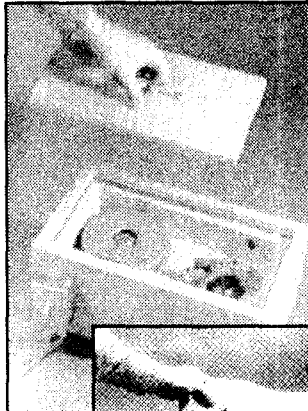
Other books will show you how to fabricate fiberglass, but how many give details on moldmaking? Here's the best I've seen. Consider it carefully. 6x9 hardcover 431 pages  
No. 495 \$67.50

## DO IT YOURSELF VACUUM FORMING

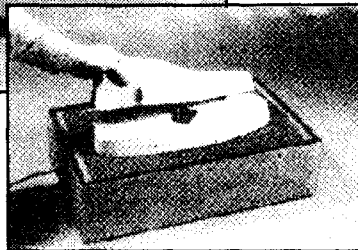
by Douglas E Walsh

The author wrote me:

"I tried the obvious way first, as I'm sure many others have by using a kitchen oven and shop vacuum cleaner. The results were OK, but limited to simple parts in thin plastics. The oven part works fine but the vacuum cleaner just didn't provide enough vacuum.... Real vacuum pumps cost hundreds of dollars...



I thought about it some more and came up with eight other sources for vacuum, most of which are inexpensive and one is



## Vacuum Form PLASTICS!

"...simple forming for about \$15.00 or less..."

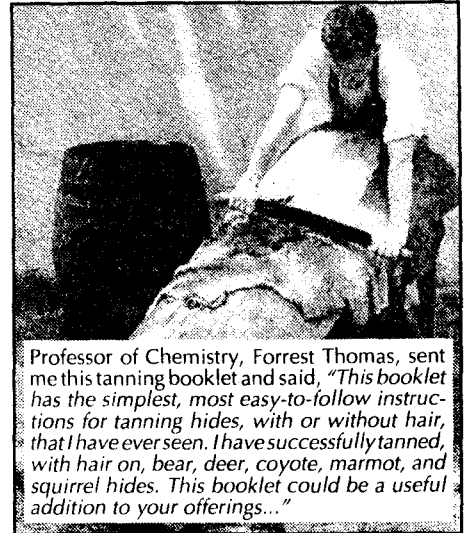
totally free! I was then able to combine a vacuum cleaner with a cheap source of higher vacuum. This gave me that magic combination of high vacuum and high flow necessary for serious forming.

This easy-to-read book shows you how to get set up to do simple forming for around \$15.00 or less if you scrounge for parts. You can also build a two-stage high vacuum system for \$50-\$60 that can form up to 1/4" thick plastics...."

You can produce magnetic signs, parts for models, and all kinds of things if you use your imagination. You can put this simple, but powerful mass-production technique to work for you because you don't have to spend a fortune on equipment.

Chapters include the basics, heat sources, vacuum sources, forming equipment, plastics, molds, forming and finishing. You get straight forward to-the-point how-to with plenty of photos and drawings.

Possible money maker! Fun to try. Here's an excellent book by a man who has done it, and explains it clearly. Get a copy! 5 1/2 x 8 1/2 booklet-style spine 128 pages  
No. 1308 \$9.95



Professor of Chemistry, Forrest Thomas, sent me this tanning booklet and said, "This booklet has the simplest, most easy-to-follow instructions for tanning hides, with or without hair, that I have ever seen. I have successfully tanned, with hair on, bear, deer, coyote, marmot, and squirrel hides. This booklet could be a useful addition to your offerings..."

## Turn Your Favorite Road Kill Into a Fur Coat!

### HOME TANNING OF LEATHER AND SMALL FUR SKINS

by US Dept Agriculture

reprinted by Lindsay Publications

This government booklet was revised in 1954 and 1962, so it certainly goes back into the 40's and maybe earlier. Is it available today? Probably not because some of the chemicals described are potentially dangerous, potassium chrome alum, for instance. It wouldn't be politically correct to put such dangerous information into the hands of the public.

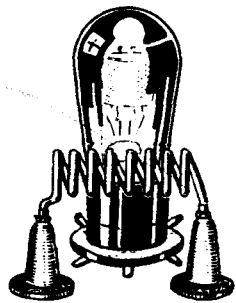
You get old information on having hides tanned, buying leather by the side, home tanning procedures using bark tanning, chrome tanning, alum tanning, and finally details on making fur skins. The authors tell you that you can make furs adequate for winter protection, but nothing beautiful enough to be used for fur coats. You get tips on making shoe and harness leather.

The instructions are clear and straight to the point with photographs and drawings. We scanned the original text into the computer and reset it so that it is easier to read. We also computer-enhanced the original photographs which looked like they had been taken during a full eclipse. The enhanced version is much better than the original.

This is a great little booklet with practical how-to. Again! You had better learn to handle the chemicals described or you could get hurt or poison your surroundings. If you can't walk and chew gum at the same time, forget this. Otherwise get a copy and turn your neighbor's barking dog into several pair of super warm mittens. 5 1/2 x 8 1/2 booklet 24 pages

No. 21745

\$4.95



## ELECTRICITY! ELECTRONICS!

HOW TO MAKE  
THINGS ELECTRICAL

compilation by UPS Book Co  
reprinted by Lindsay Publications

Here you get a collection of short, nifty electrical collection articles that first appeared in the pages of *Popular Science Magazine* just after World War I. Each is illustrated, and regardless of whether or not you build anything, you'll enjoy what you get here. This is a sort of electrical equivalent of the *Boy Mechanic* books.

Some of this not worth doing. Do you really want to build a toaster? But the Tesla coil that gives a 12" spark is very interesting (you may have seen it reprinted in other books). You might want to try making the electric cannon, the magnetograph, and electroscope, and more. If you're careful, you might want to try to make a selenium photo cell. You get numerous articles relating to motors, testing them and repairing them. You can make a water rheostat, a storage battery, arc furnace, simple arc lamp (I can smell the ozone, now), and much more.

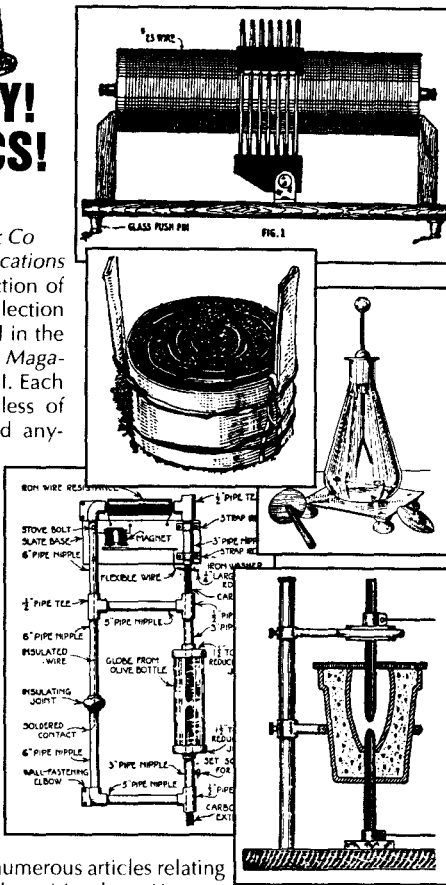
Great ideas. Lots of fun. Something for everyone. Get a copy.

5 1/2 x 8 1/2 softcover 427 pages  
No. 21494

\$12.95

# MAKE THINGS ELECTRICAL!

*Jam-Packed Electrical  
Projects and Ideas!*



## Just a few of the topics discussed!

How to Make an Electric Fireless Cooker, An Alarm That Rings by Sound, Make Your Own Electric Toaster, An Electric Stop for the Phonograph, Make the Alarm Clock Turn on the Light, Lighting the Gas Stove with an Electric Spark, A Simple Socket for Small Electric Battery Lamps, The Pocket Flashlight May Become a Spot-Light, Immortalizing Baby's First Shoes, Home-Made Electrical Device Keeps Cigars Moist, Locating a Projecting Nail in a Shoe by Flashlight, Taking Care of the Storage Battery, Making a Wet Battery from Ordinary Dry Cells, Did You Forget to Put Out the Cellar Light?, A Suggestion for Lighting a Club-House, How to Use an Old Nitrogen-Filled Lamp, A Milk-Can Vacuum Cleaner, A Small Motor Used to Open Large Doors, An Indirect-Lighting System for Your Own Home, A "Loaded" Door-Bell Button, How to Reduce Polarization in Sal Ammoniac Door-Bell Cells, Repairing the Wires on an Electric Iron, A Reliable Solution for the Electro-Deposition of Aluminum, A Reel for Winding Up an Electric Test Cord, An Electrical Spot-Light for the Sewing Machine, The Underwriter's Knot for Flexible Cords, A Fire-Alarm to Be Attached to an Oil Heater, An Alarm to Announce the Charged Storage-Battery, An Inexpensive Electric Coffee-Pot, Why That Sewing Machine Motor Slips, How to Make a Miniature Electric Reading Lamp, Taking Flashlights by Electricity, How to Make a Two-Step Night-Light Transformer, Make Your Own Christmas Tree, 'The Burglar Makes a False Step, Increasing the Voltage of a Dry-Battery, To Prevent the Ears from

Perspiring When Using Telephones, The Sleeper Must Get Up to Stop the Alarm, An Electro-Thermostatic Control for House-Heating Boilers, An Electrically-Heated Inhaler for Respiratory Troubles, The Ordinary Buzzer Used for a Shocking Machine, Why Stay Awake to Call the Nurse, A Toy Electric Signal for Miniature Trains, How Short Circuits Occur on an Automobile, Why Use a Step-Ladder to Change Light Bulbs, How to Make All the Clocks Strike at Once, Drying Shoes with Heat from an Electric Globe, Twisted Picture-Cord Used for a Fan Motor Brush, The Electric Lamp As a Cooking Device, New Applications of Electricity, An Electrically Driven Gyroscope and How It Acts, Strong Wireless Signals in Winter Time, Electricity Direct from Coal, How Electric Signals Direct a Big Show, Connecting a Spotlight, in an Automobile Dynamo Circuit, Moving X-Ray Pictures, Describing the Electric Circuit by Comparing It to Hydraulic Circuit, An Effective Method for Recharging Dry Cells, A Silver-Plating Bath and How to Use It, How Electrolysis Destroys Water-Mains, The Effect of Electricity and Music on the Human Organism, Photographing Music on a Film, X-Raying the Oyster for Pearls, Testing Tips for the Electrician, A Soldering Iron Heater, A Speed Indicator Will Count the Turns for Your Coil, Paper Strips on Armature Amplify a Buzzer Tone, How to Test the Strength and Stability of Magnets, Charging Storage Cells from Service Mains, Railroad for the Telephone in a Crowded Office, An Elaborate Electrical Plug-In Clock, much more...

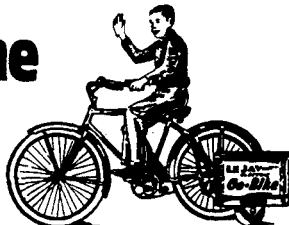
LEJAY MANUAL 1945 EDITION

by Lawrence D. Leach

reprinted by Lindsay Publications

In the 1930's the Lejay Mfg Co in Minneapolis began publishing a booklet describing unusual electrical projects. As new editions came out, new plans were added until by 1945 there were 50 separate "chapters".

## The



## Incredible 1945 Lejay Manual!

Most of the articles in this edition deal with the conversion with now-antique auto generators into 110 volt alternators, other voltage generators and motors. A lot of this info was used in areas of the country that hadn't been electrified. You could buy old generators from auto junk yards, build a windmill, repair old auto batteries, and use the electricity to run homebuilt motors, welders and so on.

Most of the information in this booklet is now of limited value simply because you can't get the generators listed. But the rewinding data, hints and tips provided can help you in other rewinding projects for other types of generators.

There ARE several projects in this booklet each of which is

worth the entire price of the publication. For instance, you can build a small but useful spot welder powered by nothing more than a string of auto batteries. You get plans for an arc welder, a transformers spot welder, a carbon-arc torch, electric bicycle, a water wheel, a windmill and more. Each plan is well illustrated.

This is a manual worth having in your reference library. Great ideas. Great value. Fun to read. Useful projects.

Worth having. Order a copy!

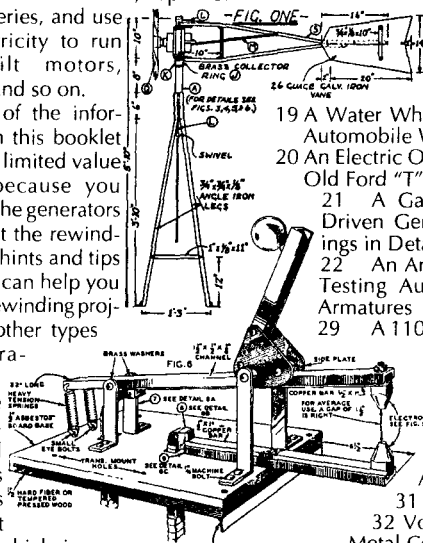
8 1/2 x 11 booklet 32 pages

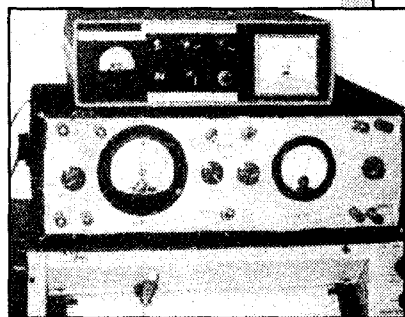
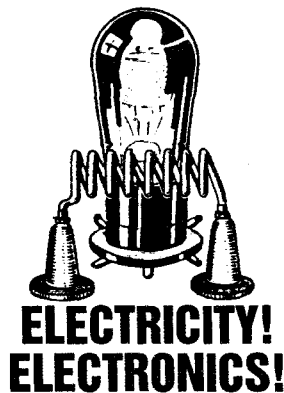
No. 20013

\$7.95

## Just a few of the 50 UNUSUAL ELECTRICAL Projects & Plans

- 1 Plans for 110 Volt AC Light Plant made from Ford Model "T" Generator
- 3 A 6 Volt Slow Speed Generator (with plans for all-metal windmill)
- 4 6 Volt & 12 Volt Slow Speed Generators from Dodge "G" or "GA" Northeast Generator also from other Generators
- 5 A 32 volt slow speed wind light Plant Generator
- 7 How to Make a Grinder, Series Motor, Constant Speed Motor, A Universal AC or DC Motor and a Soldering Iron
- 8 A 75 to 110 Ampere Arc Welder Made from Dodge "G" or "GA" Generator. Also Dual Welders.
- 9 Pendulum Type Fence Controller made from Ford "T" Coil
- 10 Plans for Building a Complete Wind Light Plant Including Tower, Propeller and Generator Charger
- 11 A 110 Volt AC Light Plant Generator
- 12 A "B" Eliminator For Your Battery Operated Radio
- 13 An Automobile Generator Booster Control
- 18 Directions for Repairing Your Own Batteries
- 19 A Water Wheel Made from Old Automobile Wheel
- 20 An Electric Outboard Motor from Old Ford "T" Generator
- 21 A Gas Engine or Motor Driven Generator with Drawings in Detail
- 22 An Armature Growler for Testing Auto or Slow Speed Armatures
- 29 A 110 V. or 220 VAC Portable Transformer for Arc Welding
- 30 A 110 Volt Spot Welder — 1 Kw. Input Normal Draw 10 to 11 Amps
- 31 A Direct Drive 32 Volt Wind Plant — All Metal Construction
- 32 A Battery Spot Welder
- 43 Two Types 110 Volt AC Insect Exterminators
- 44 An Electric Scooter Using a 6 or 12 volt Battery for Power
- 45 An Electric "Go Bike" Using a 6 or 12 volt Battery for Power
- 46 A Carbon Electrode Holder for Soldering, Brazing and Light Welding Direct from Six-volt Storage Batteries
- 48 110 Volt AC 500 Watt Self Excited Generator from Dodge Model "G" or "GA" generator
- 50 An AC Welding Transformer Using Dodge Generator Coils
- Appendix: Windpower Information, Definitions, etc





## HOW TO BUILD EARTHQUAKE, WEATHER AND SOLAR FLARE MONITORS

by Gary G. Giusti

This is kind of a strange book. My impression is that you get details on wide ranging experiments the author conducted over the years. The title is an attempt to pull it altogether into a single book. But I think the shot gun approach makes it interesting.

## Unusual Electronic Projects!

You'll learn how to build a basic seismometer, magnetic field disturbance detector, geiger counter, seismic-solar flare receiver, water seepage detector, earthquake alarm and more. But some of the "more" includes building ancient vacuum tube receiver circuits. Why? I don't know, other than it's fun.

Chapters include seismology, building a basic seismometer, electromagnetic seismographs, observing atmospheric, building a complete seismic-flare receiver, vacuum tube circuits, basic solid-state power supplies, antennas and coils, advanced projects, Southern California earthquakes of 1992, US seismicity maps, maverick observations, digitizing the output, meteorological applications, and the Northridge earthquake.

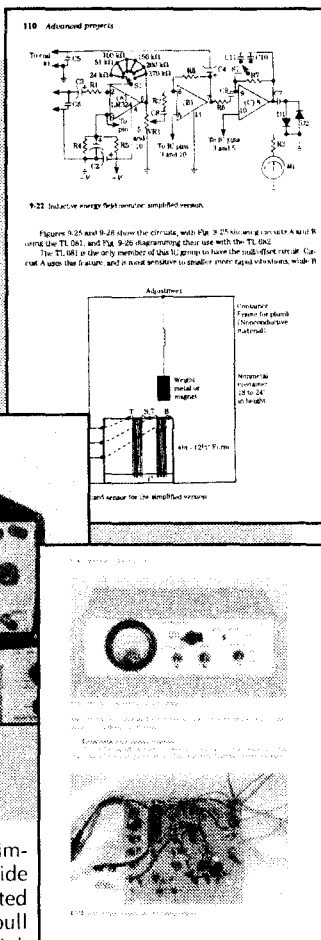
You get lots of circuits, advice, ideas, and interesting observations. But I don't consider it all that rigorous. For instance, the author discusses seismometer circuits which is great, but I don't see anything on detectors that discriminate among the various types of ground motion. In the out-of-print "Amateur Scientist" by C. L. Stong published in the 1960's you'll find a number of different seismographs, but not here.

Again this appears to be a bunch of fun projects, some of them very near the edge of believability thrown into a single book. Any one project is the beginning of a new adventure. And since these are unusual projects, I think the book is worth having. If it had a circuit for a transmitter to talk Tesla who now lives on Venus, I would have trashed it. It's much better than that. So get a copy. Interesting stuff. 7 1/2 x 9 softcover 290 pages No. 3043

\$19.95

## Extract Electricity from the Ground!

Sounds like science fiction? It's not. It's for real. One radio described in *Xtal Set Society Newsletters Vol V* (described in this catalog) actually converts noise in the ground into electrical power to drive a transistor amplifier! It's not a totally new idea, but the author has perfected the principle to the degree that he was able to build a working radio.



# The Boy Electrician

## Classic 1940 Edition Available Again!

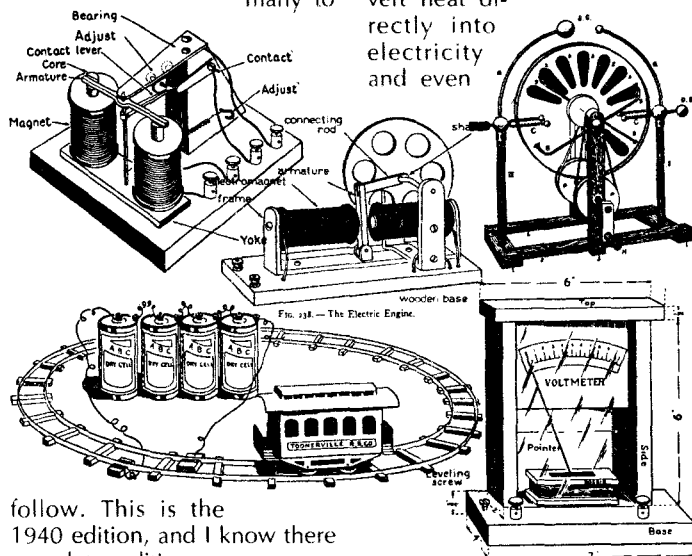
### THE BOY ELECTRICIAN

by Alfred P. Morgan

reprinted by Lindsay Publications

If there could be only one book chosen as the boy's book of electricity, it would have to be this one. The first edition appeared in 1913 and there were many to

induction coil, a step-down transformer, wireless telegraphy with a crystal set receiver, vacuum tube receivers including a regenerative, motors and generators, an electric train, a device to convert heat directly into electricity and even



follow. This is the 1940 edition, and I know there were later editions.

Here, you get chapters entitled magnets and magnetism; static electricity; static electric machines; voltaic cells and batteries; electromagnetism and magnetic inductions; electrical units; wires and accessories; electrical measuring instruments; bells, burglar alarms and annunciators; telegraphy; microphones and telephones; inductions coils; transformers; wireless telegraphy; radio receiving sets; an experimental "wireless" telephone; electric motors; dynamos; an electric railway; miniature lighting; miscellaneous electrical apparatus.

You may remember having read "The Boy Electrician" when you were a kid. If not, you missed something. You get practical how-to plans and advice to build and have fun with all kinds of electrical equipment. You might start with a cork and needle compass, but before long you'll be building a Wimshurst machine, powerful batteries from scratch, galvanometers, voltmeters, ammeters, telegraph keys and sounders, a telephone, a high voltage

a Tesla coil!

The whole book is heavily illustrated and a joy to read. Remember. This is written for boys. You're not going to get detailed design theory. Morgan keeps the discussion light and fun. But these are great projects.

You get a boy's classic book. Books like these aren't published anymore. This is worth having. Lots of great experiments, ideas, and teasers to get the imagination going. So get off yer butt and get a copy of this. Start building. Even if you sit on the couch, suck a barrel of beer and eat a cubic yard of potato chips like I do anymore, you can still enjoy this. It's fun to read. Get a copy.

5 1/2 x 8 1/2 softcover 403 pages No. 21648

\$19.95

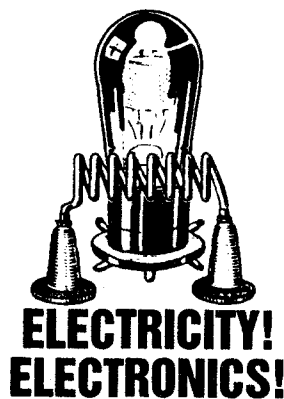
### BOY ELECTRICIAN Hardcover Edition

I had just a few copies casebound (cloth). They will probably disappear before the softcover. If you want one, order quickly. While they last...

No. 21656

\$24.95





## UPGRADING AND REPAIRING PCS 4th Edition

by Scott Mueller

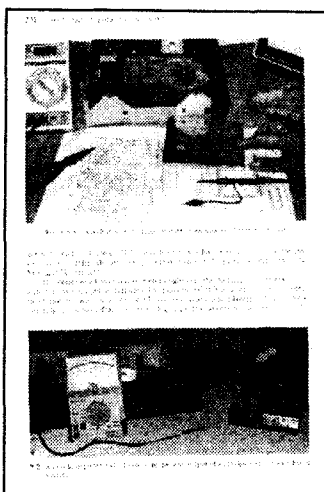
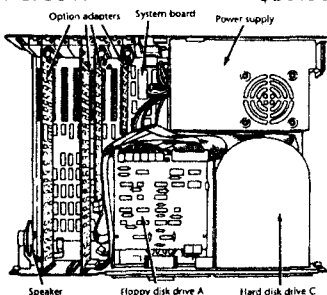
This is as close to an everything-in-one book as I ever hope to see. It covers everything in detail: motherboards, memory, disk drives, expansion slots, power supplies, mass storage, CD-ROM drives, backup, sound boards, video boards, monitors, I/O ports and much more. This is a monster book that is found in bookstores. The publisher claims more than 650,000 copies have been sold.

## Repair Computers!

Junk computers are available. You can recycle them using this. It covers the old and the new and gives technical details, specifications, error codes that I haven't found elsewhere. It even has a pin map for that damned microchannel bus machine that I took the sledge hammer to, a few years back! I didn't know anyone even cared enough to figure it out! (How's that for sarcasm?)

The truth is this mutha weighs five pounds and has over 1500 pages of wall-to-wall reference material on disassembly, repair, and configuration of IBMPC compatibles. Not long ago an insurance man gave me an ancient machine that I passed along to an experimenter who promptly set it up as an efficient text processor at almost no cost. You certainly don't need a Pentium processor to type letters. This book is cheaper than the newest chip set.

Great book! It's so big that it's literally a pain to handle it. But they don't get better than this. I want you to send us an extra dollar to cover the extra shipping if this is the only book you order. 7x9 softcover 1546 pages No. 3041 \$39.99



## TROUBLESHOOTING AND REPAIRING

Compact Disc Players 2nd Edition  
by Homer L. Davidson

"Whether you're an electronics student or a practicing technician, this book will prove an invaluable hands-on guide. Beginning with basic CD player principles and ending with schematic diagrams - straight from more than 11 different manufacturers - this heavily illustrated reference shows you exactly how to •remove and replace defective laser heads •troubleshoot and replace low-voltage power supply circuits •service signal circuits with a scope •repair servo systems •locate and replace defective slide and load motors •build an infrared tester •troubleshoot and replace defective audio components •and more

Covers home, portable, and car CD players."

It looks good. Lots of information. I haven't serviced CD players, so I'm not sure to what degree you can transfer the knowledge here to off brands of CD players. But like automobile engines, all CD machines are a little different, but they're all very much alike. If you know what I mean. This is the best that I've seen so far. Consider it. 7 1/2 x 9 softcover 488 pages No. 3045 \$24.95

# Is it Possible to BUILD A VACUUM TUBE?

## HANDBOOK OF ELECTRON TUBE AND VACUUM TECHNIQUES

by Fred Rosenbury

"Originally published in 1964, this book was one of the building blocks in the history for vacuum science. Its primary purpose was to give researchers, practitioners, and graduate students a single reference source for the information and data needed to construct electron tubes and other devices based on vacuum technology..."

Do you hear that? This is a reprint put out by the American Institute of Physics for people who want to build vacuum tubes! Sure you can buy a transistor for 15¢, but maybe you can retrace Lee deForest's steps.

Maybe you can recreate Edison's original light bulb!

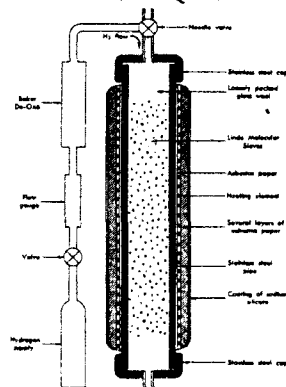
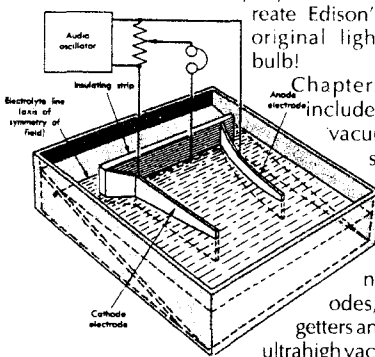


Fig. 2 Construction of hydrogen-drying column

## Chapters

include cleaning of electron tubes and vacuum components, electroplating and stripping, heat-treating and brazing, induction heating, glass-to-metal seals, metal and ceramic bonding, tube laboratory procedures, heater design and preparation, nickel bases for oxide-coated cathodes, oxide-coated cathodes general, getters and getter-ion pumping, cryopumping, ultrahigh vacuum, construction techniques, metal bellows, assembling tubes, leak detection, vapor

pressure and a huge, detailed glossary on materials and techniques.

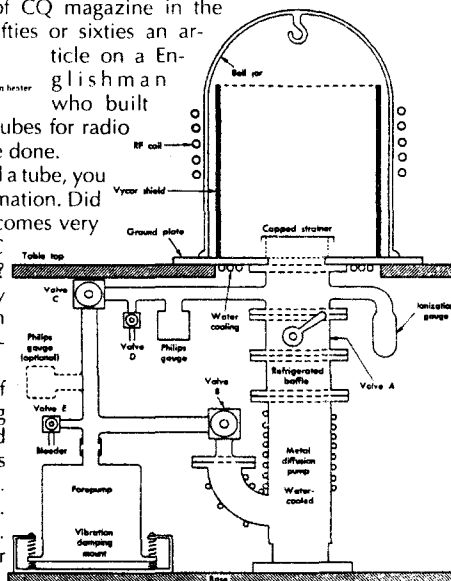
This is not step-by-step how-to. It's a reference covering problems you're likely to encounter. You get everything from formulas for electroplating solutions, to jigs for fabricating filaments and recommendations for getter compounds.

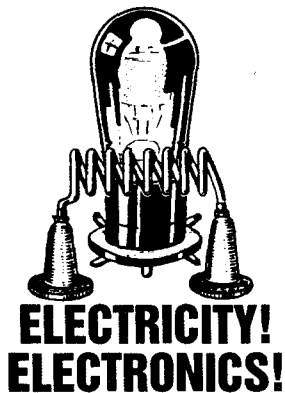
To make tubes you will have to be a glass blower, a vacuum pump technician, a metal fabricator and something of an electronics buff. Is it possible? Absolutely. I remember seeing in an issue of CQ magazine in the fifties or sixties an article on an Englishman who built

his own power vacuum tubes for radio transmitters. So it CAN be done.

Even if you never build a tube, you get loads of unusual information. Did you know that nickel becomes very ductile if annealed at 600°C in a hydrogen atmosphere? Lay that on Dave Gingery the next time you see him at a cocktail party. (On second thought, better not...)

This answers lots of questions about something that was very common and is now low-tech as far as electronics is concerned. Expensive, but fascinating. An encyclopedia of sorts. Consider it. 6x9 softcover 597 pages No. 3044 \$35.00





## VIDEO SCRAMBLING & DESCRAMBLING FOR SATELLITE & CABLE TV

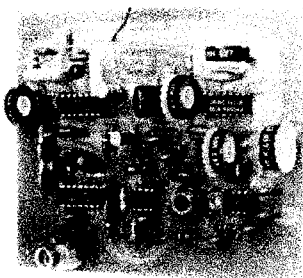
by Graf & Sheets

If you have purchased or plan to purchase a satellite dish to capture signals coming from the many Earth-orbiting satellites, this book is for you.

You get:

- An understanding of encoding/decoding systems
- The theory and techniques of video encryption and decryption
- An overview of the rules and regulations governing the availability and use of satellite signals, antennas, and programming materials
- Schematics and details for several encoder and decoder projects.

## How to Unscramble Video!

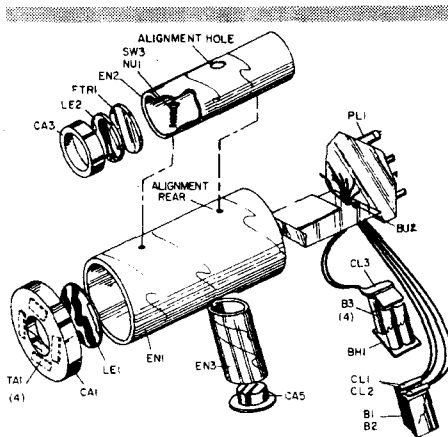


Originally published in 1987, this book provides detailed information on everything from simple cable encryption systems to commercial satellite systems such as VideoCipher II™, the B-Mac System, and even the Data Encryption standard.

Although the authors are quick to point out that the information is not be misused in theft of signal, they have provided a wealth of schematics, printed circuit board layouts, IC chip specs, patent reprints, list of satellites and the scrambling systems they use and much more. This is a quality master reference that any video/satellite fanatic will find useful. Order a copy today! 8 1/2 x 11 softcover 246 pages

No. 370

\$24.95



## Lasers! Phasers! Ion Ray Guns!

**BUILD YOUR OWN LASER, PHASER, ION RAY GUN...**

by Robert E. Lannini

Here's one of the most bizarre collections of how-to plans I have ever seen. You'll learn how to build high-power pulsed red ruby laser gun, high-power continuous IR CO2 Laser, ultrasonic field generator, programmable high-power ultrasonic generator, 250,000 volt Tesla coil, magnetic field distortion detector, solid-state Tesla coil, a variety of wireless "bugs", a super-sensitive parabolic microphone, electronic paralyzing device, battery charger and eliminator and much more.

Lannini is an experienced electronics inventor, and holds many patents. He'll give you parts lists, wiring diagrams, assembly diagrams and all you need to get these projects built. I don't think that it's any coincidence that almost every plan has a footnote telling you that kits are available from Information Unlimited, Inc., which is owned by the author and which advertises in the back of the science and mechanics magazines. No doubt, that firm's best selling plans have been reprinted in this single volume.

This book is expensive, but it delivers. I really like this, and I'm sure you will too. Order a copy, even if it has to sit for two years on the shelf before you get ready to build. Excellent book. 8 x 9 1/2 softcover 390 pages.

No. 346

\$18.95

### UNUSUAL PROJECTS

- beginner's simulated laser • visible red laser
- pulsed laser rifle • ruby laser gun • CO2 laser
- laser light detector • plain field generator
- phaser shock-wave pistol • ultrasonic generator
- ultrasonic listening device • 250 kv Tesla Coil
- Ion ray gun • magnetic field distortion detector
- light-beam communicator • solid-state Tesla coil • infrared viewer • FM voice transmitter
- long-range telephone xmtr • parabolic microphone
- paralyzing device • wireless repeater xmtr • much, much more!

# Neon Signs

**Great How-To on Glass Blowing, Vacuum Systems, High Voltage and more from 1935!**

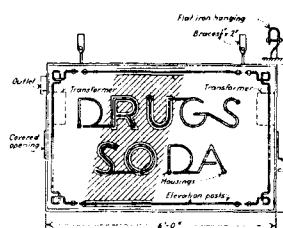
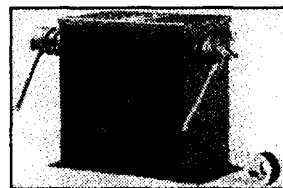


NEON SIGNS

by Miller & Fink

reprinted by Lindsay Publications

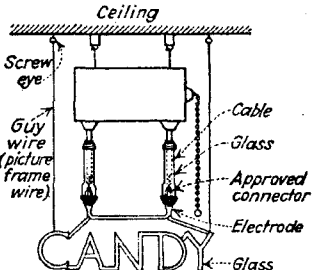
Sure. Equipment, techniques, and sign design have changed since this book first appeared in 1935, but not all that much.



Even if you're not interested in making neon signs, you'll find loads of useful information on rare gases, glass blowing, and vacuum systems that could be useful in experimental physics, high voltage, or even in build-

ing your own experimental vacuum tubes!

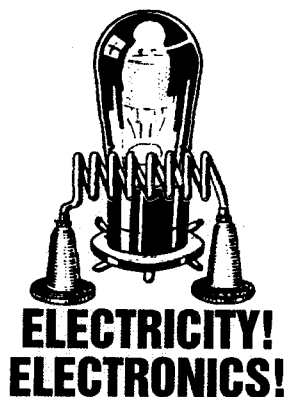
Chapters include the luminous tube, materials, electrical equipment, types of signs, designing the sign, glass bending, pumping systems, bombarding, filling, testing, aging, installation equipment, special applications, tricks of the trade and more!



This is a quality straight-to-the-point book loaded with diagrams and photographs that you won't find just anywhere. It might be fun to make bizarre neon signs, repair "antique" signs, or just get into the trade. But even if that's not your goal, you'll find loads of unusual, interesting information. Consider this carefully. It certainly is NOT run of the mill. Order a copy. 5 1/2 x 8 1/2 softcover 288 pages

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\$12.95

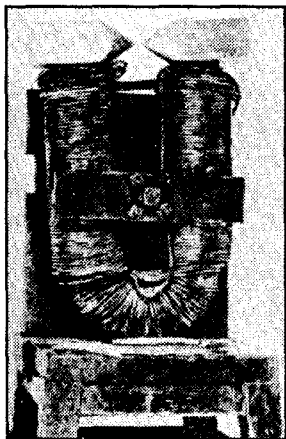


## MAGNETISM An Introductory Survey by E. W. Lee

Learn about lines of force; ferromagnetism; paramagnetism and diamagnetism; quantitative measurement of magnetic force; domains and domain boundaries; high-permeability alloys, their theoretical basis and uses; magnetic matrices used as computer-storage devices; ferromagnetism and antiferromagnetism; and much more.

# Introduction to MAGNETISM!

You get 60 diagrams and sketches and more than 32 pages of photographs. This is



one heck of a lot of book for the money. And it's must reading for basement engineers, experimenters, even the guy who's trying to build a magnetic motor or perpetual motion machine. Great background information. Order a copy.

## NUTS & VOLTS MAGAZINE

Have you seen it? If not, you might want to check it out. It's an 11x13 monthly electronics shopper of about 120 pages. There are construction articles for off-the-wall projects as well as display and classified ads for everything from unusual test equipment, TV descramblers, Tesla coils, crystal radio gear, computer and telephone hackers, and much more for builders and experimenters. Very little computer gear. Cover price is \$3.50. If you can't find it locally, maybe they'll send you a copy.

### Nuts & Volts Magazine

430 Princland Court

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subscriptions only: 1-800-783-4624 (\$19/yr)

fax 1-909-371-3052

# Solid State Design Bestseller!

## SOLID STATE DESIGN FOR THE RADIO AMATEUR

by Hayward and DeMaw

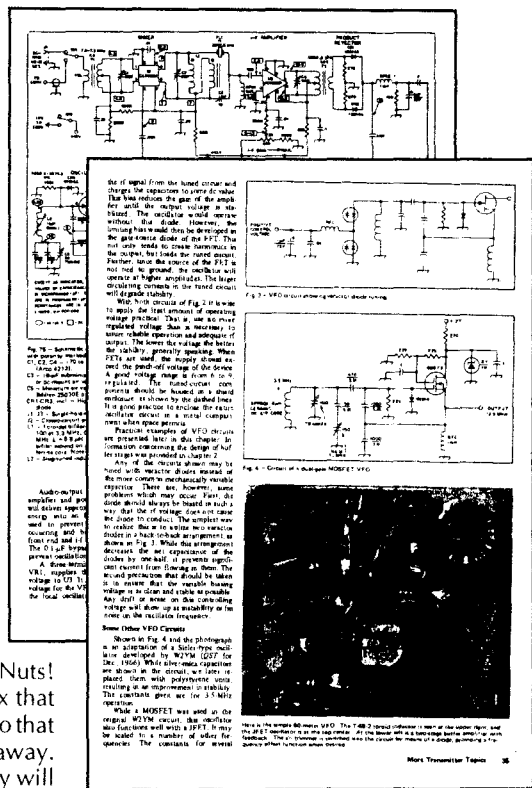
If you want to build radios with transistors, get this. True, it's aimed at the radio amateur who wants to radiate a signal as well as receive, but if you learn half of the knowledge taught here, you'll be the neighborhood electronics wizard.

Chapter include: semiconductors and the amateur; basics of transmitter design; more transmitter topics; power amplifiers and matching networks; receiver design basics; advanced receiver concepts; test equipment and accessories; modulation methods; field operation, portable gear and integrated stations; appendix and bibliography.

Start by building a VFO, variable frequency oscillator. It must be stable whether you use it to drive a transmitter or tune a receiver. Just building one will be an educational process. Build the transmitter. Build the receiver. Nuts! Build the whole station in a metal box that fits in the palm of your hand! You can do that and talk to someone a thousand miles away.

If you're just a receiver nut, not only will you get the basics of receiver design, but you'll get into design of modern receivers which need high dynamic range, something a regenerative receiver does not have. You can build a receiver that can rival just about anything you can buy. In the forward it is noted that professional RF engineers have used the book to improve their work. Think about that! Here's a book the pro's learn from.

I have "stolen" various circuits to include



in my own experiments. They work, and they work beautifully. You can do the same.

This first appeared in 1977, has seen some minor revisions, and now carries a 1986 copyright. I've yet to get half way through the experiments and projects. This is rightfully regarded as a classic, and something you should have in your reference library. A must have for the experimenter. Get a copy. 8 1/2 x 11 softcover 256 pages

\$15.00

# FIFTY-FIVE WILD PROJECTS!

**Jacob's Ladder • Plasma Sphere • Induction Coil • Van de Graaff generator • Tesla Coil • Kirlian Camera • Superconductor Disc • See-in-the-Dark Viewer • more!**

## GADGETEER'S GOLDMINE!

by Gordon McComb

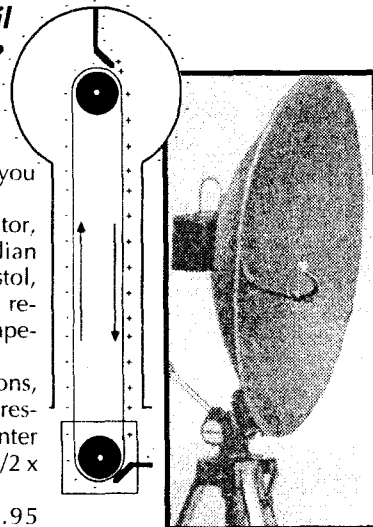
Here, in a single book, are 55 off-the-wall devices you can build.

You get a Jacob's ladder, plasma sphere generator, induction coil, Van de Graaff generator, Tesla coil, Kirlian camera, piezo film speaker and amp, He-Ne laser pistol, variable-rate strobe light, radiation detector, universal receiver, superconductor disc, see-in-the-dark viewer, shape-memory alloy, espionage devices, robots, and more!

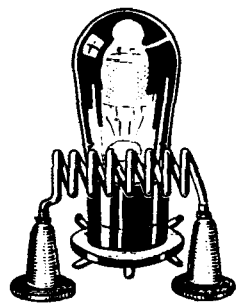
And this is good stuff! — plenty of detail: illustrations, diagrams, how-to text. The list of suppliers is quite impressive, too. This is a book every unorthodox experimenter should have in his library and never loan. Get one! 7 1/2 x 9 softcover 406 pages

No. 383

\$21.95







## ELECTRICITY! ELECTRONICS!

### PRIMARY BATTERIES

by Henry S. Carhart  
reprinted by Lindsay Publications

Here's a great little book that covers the characteristics, construction, performance, maintenance, and measurements of primary batteries — devices that turn chemicals into electricity. What you get is what I call "practical theory" — knowledge that will help you understand turn-of-the-century batteries that few people have ever seen and get the most from them. You don't construction how-to.

## Chemicals Into Electricity! Primary Batteries

Chapters include introduction, simple voltaic cell, potential and electromotive force, closed circuit batteries, open circuit batteries, batteries without a depolarizer, standards of electromotive force, miscellaneous batteries, battery tests, grouping of cells, and thermal relations.

The chapters are actually broken into 118 sections such as experiments on the polarization of a simple cell, defects of the Daniell cell, the bichromate battery, the copper-oxide battery, the closed Leclanche cell, the Smee cell, the Law battery, the Gassner dry battery, Lord Rayleigh's form of the Clark element, Minchin's seleno-aluminum cell, Jablochkoff's battery, test of a silver chloride cell, grouping dissimilar cells, application of the Bunsen cell, and much more.

This hard-to-find information is essential for understanding how unusual, early batteries, now long forgotten, work.



Great reference! Great illustrations! Impress your friends when you fire up your homemade regenerative receiver on a home-made battery! They'll think you're Tesla himself! Worth having. Order a copy! 5x7 softcover 208 pages

No. 20536

\$8.95

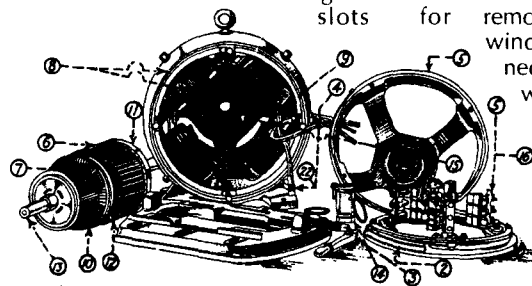
# Armature Winding & Motor Repair

## ARMATURE WINDING & MOTOR REPAIR

by Daniel H. Braymer  
reprinted by Lindsay Publications

From 1920 comes this motor rewinding book loaded with drawings and photographs that will show you how to rebuild both AC and DC machines.

Chapters include: DC machines, AC machines, shop methods of rewinding DC armatures, making commutator connections, testing DC armature windings, operations before and after winding DC armatures, insulating coils and slots for



winding, shop methods for rewinding AC machines, testing induction motor windings for mistakes and faults, adapting DC motors to changed operating conditions, practical ways for reconnecting induction motors, commutator repairs, adjusting brushes and correcting brush troubles, inspection and repair of motor starters and generators, diagnosis of troubles, methods to solve special troubles, tables and more.

You'll find a chapter that shows you how

to build special tools and jigs, an armature sling, a pinion puller, coil winding machine, a coil taping machine, commutator slotter, armature banding machine and more.

The motors described are large types used in factories. But the principles apply to the smaller motors you and I use. You'll learn how to reconnect induction motors for different voltages and phases, how to operate a DC motor as a generator and vice-versa, change the DC motor windings for different voltages, and more.

You'll be taught all the techniques — from removing old windings and cleaning slots, to winding the coils, insulating the end connections, inserting the coils, painting the windings, relining split bearings, and much more. You get data on all types of wave and lap windings, varnishing and insulating materials, and much more.

I make you no promises, but this is the logical place to start should you want to rewind a motor to particular voltage, wind a generator or alternator for use with a windmill or waterwheel, rewind a big generator for use as a welder, modify a DC motor for use in an electric car, and so on.

This is a beautiful book. You get over 500 pages of clearly written, wall-to-wall practical how-to with excellent illustrations. It's a gem that should be in the reference library of most "machine freaks" (that includes you, son). Get a copy 5 1/2 x 8 1/2 softcover 540 pages

No. 4384

\$18.50

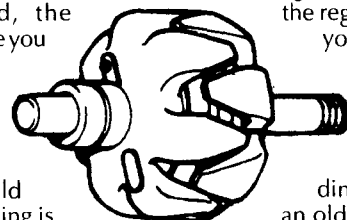
## Run Three-Phase Motors!

### RUN THREE PHASE MOTORS ON SINGLE PHASE POWER!

Yes! You can run three-phase motors on single-phase power using any one of three excellent methods in use since the turn of the century. First, lathes, drill presses, and other machine tool motors can be run with the capacitor method. Second, the autoformer method (a technique you should buy rather than build) is useful for motors running under continuous full load. And finally you can run a whole shop full of three-phase motors from a single, easy-to-build dynamic converter! No rewinding is necessary. These methods are good to at least 150 hp and 220 volts! Low starting currents and excellent power factor are possible.

Basic three-phase and induction motor theory is included. This booklet and some experimentation can have you up and running. 5 1/2 x 8 1/2 booklet 15 pages, 18 illustrations — a BARGAIN!

No. 81



only \$3.00

## Alternators!

### ALTERNATOR SECRETS

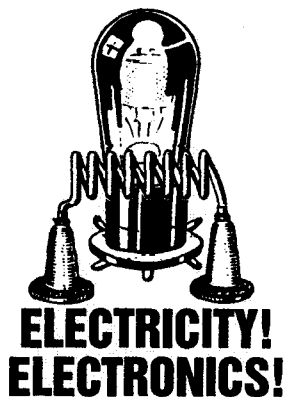
If you know the secrets of modification, you can get large amounts of power from a common auto alternator. You can build a portable powerplant driven by a gasoline engine to run brush-type power tools, lights, and AC-DC appliances at remote locations. You can hot-charge storage batteries, or even do light arc welding. Operation of the regulator is explained so that you can build a custom regulator, if needed, to provide regulated output voltages other than 12.

Learn how you can make almost any ordinary induction motor (like an old washing machine motor) put out 120 volts at 60 cycles without rewinding or internal rewiring. These secrets are worth the price of the booklet alone.

We've jammed a ton of information into 16 pages with small type to keep printing costs down so that we can keep the retail price the same as the old edition. Valuable, rare info! Get a copy. 5 1/2 x 8 1/2 booklet 16 pages

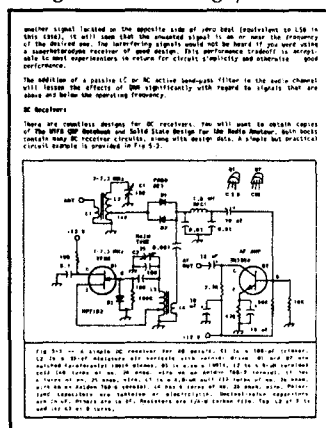
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## W1FB'S DESIGN NOTEBOOK Practical Circuits for Experimenters by Doug DeMaw, W1FB

The name Doug DeMaw is as familiar to radio experimenters as the name Tesla is to the high voltage fanatics. This guy knows the theory and



practice and uses it to build fun radio projects: receivers, transmitters, transceivers, matching networks, test gear and more.

Here you get his intro to solid state circuits starting with biasing transistors, building

## DeMaw's Design Notebook

audio amps of various types, oscillators of exceptional stability, RF power amps, crystal filters and on and on.

Chapters include: diodes, ICs and transistors; transistor applications; diode and IC applications; construction practices; practical receivers and techniques; transmitter design and practice; index and appendix. Build a simple superhet receiver, an HF band down converter, a one-transistor shortwave transmitter (license required), a 15 watt 2 meter transmitter and much more.

You get page after page of schematics, charts and diagrams and down-to-earth practical electronics. I don't care if you have a PhD in electrical engineering and deal with wide-sense stationary non-ergodic communication processes. Even you WILL learn a lot here. I said this man is "Mr Experimenter." That's no exaggeration.

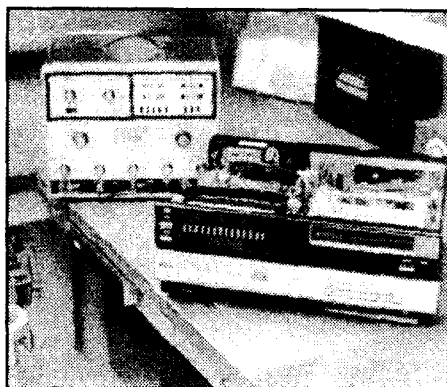
If nothing else, get a copy and build some transistor amplifiers and oscillators. You'll even find a regenerative receiver and an equally simple direct conversion receiver that begs to be built.

All meat, direct-to-the-point how-to. Good stuff. No digital. All analog. And slanted to amateur radio. DeMaw has always been someone whose work I've admired. You will, too. Get a copy.

8 1/2 x 11 softcover 195 pages

No. 3033

\$10.00



## VCR Repair

### MAINTAINING & REPAIRING VCRS

by Robert L Goodman

VCRs and computers are like manure. They're everywhere. Maybe it's time to think about learning these kinds of machines and earning some bucks. Or learning to recycle and turn the other guy's trash into something of value.

From the backcover:

"Make your own VCR repairs using the same techniques as the professionals. This definitive repair guide tells you everything you need to know.

If you're a technician, electronics hobbyist, or VCR owner with a modicum of technical aptitude, this practical manual shows you how to troubleshoot, pinpoint, and correct virtually every malfunction in VHS, Betamax, and 8mm VCRs. This new edition of the best-selling guide is completely updated to cover all of the latest makes and models.

From snowy pictures to garbled audio, you'll learn how to fix it quickly using the same techniques used by experts. Step-by-step instructions and hundreds of photographs, pinout diagrams, and drawings make it simple to tackle even the most difficult problems. Packed with helpful case studies, this book contains invaluable information gathered from the service departments of such companies as General Electric, RCA, Panasonic, and Sony.

You'll find in-depth coverage of: mechanical systems and electronic circuits used in consumer VCRs Test equipment, servo and control systems, camcorders and special VCR circuits, including HQ video and stereo and digital audio circuits.

Contains handy troubleshooting flowcharts."

This book has two functions. First, it tells us, the curious, how these machines work, and that's fun to know. Second, it tells some of us what we're getting into when we decide to start servicing. And that includes special knowledge, jigs, gauges, and electronic test equipment.

I'll probably never repair my VCR, but I sure do like this book nonetheless. Loaded with details. Lots of meat. The first VCR I ever repaired was built in '58, had 150 vacuum tubes, occupied six 6' foot relay racks, and used 2" quad tape on 3600' reels! (I still hear it in my sleep: "This is an RCA monochrome video alignment tape recorded with signals specified by the SMPTE recommended practice...") That \$150 box now on my TV delivers far better quality! Amazing!

Good book. Expensive, but it delivers. Consider it. 7 1/2" x 9" softcover 495 pages

No. 3040

\$24.95

## THE COMPLETE IDIOT'S GUIDE TO BUYING & UPGRADING PCS

by Shelley O'Hara

It doesn't take much computer jargon to make anyone feel like an idiot. Here's a book built to help raw beginners understand what all the hardware is about.

"This all-new Second Edition helps you make sense of the world of hardware and software, so you can figure out what you need, buy it, and get it set up without breaking your bank account. You get simple steps for all the basics, plus friendly advice in an easy-to-understand, easy-to-enjoy format. Tips, definitions, and warnings help you save time and effort, and a handy tear-out checklist helps you keep track of what you need—so you can buy or upgrade with confidence!"

Chapters include: the least you need to know; a tour of the software; PCs at a glance; setting your priorities; the power of the processor; memory—the computer's thinking capacity; your electronic filing cabinet—the hard disk; data movers—floppy disks; your monitor to the world; keyboard and mouse antics; slots, plugs, and bays—the system unit; multimedia—CDs and sound; on the road again—portable PCs; picking a printer; a modem/fax connections; more drives!; goodies and gadgets; accessories; doing your homework; taking the plunge; what you need to know before you upgrade; opening the box and looking around; adding a second hard drive; installing a CD-ROM and sound card; more memory; and more.



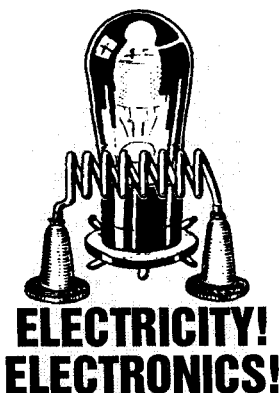
## Don't Be Intimidated by Computer Jargon. LEARN!

When you're done you'll know the difference between a standard and an extended keyboard. Between an IDE drive and a SCSI. Why .28mm dot pitch is better than .39. When you come away from this, you should be able to pick up an ad for a computer and understand all the abbreviations and jargon. Everything is simply explained, and humorous in spots.

Is this the greatest computer book for beginners? I don't know. I haven't read them all. I've been programming computers for thirty years already, and this book answers most of the questions people are always asking me. I think it's pretty darned good. You're gonna need a computer to tie into the Internet. Maybe it's time to start thinking about getting one. IF they scare you, it's only because you let them. Fight back. Learn! 7 1/2 x 9 softcover 305 pages

No. 3037

\$16.99



## SOLENOIDS, ELECTROMAGNETS AND ELECTROMAGNETIC WINDINGS

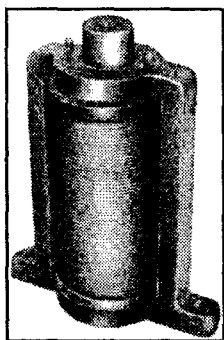
by Charles R. Underhill

reprinted by Lindsay Publications

Creating an electromagnet is quite easy as Faraday discovered, and as you and I know. But creating an electromagnet that generates a field of needed intensity, drawing minimal amperage at available voltage without overheating is not so easy. Few people know how it's done. Here you'll learn the secrets of creating working electromagnets.

## Secrets of Electromagnets!

Chapters include: magnetism and permanent magnets, electric circuits, electromagnetic calculations, the solenoid, practical solenoids, iron-clad solenoid, plunger electromagnets, electromagnets with external armatures, electromagnetic phenomena, alternating currents, AC electromagnets, quick-acting electromagnets and methods of reducing sparking, materials and bobbins, insulation of coils, magnet wire, insulated wire, windings, forms of windings, heating of windings, and tables and charts. There are also 233 illustrations listed showing everything from a practical multiple-coil winding to rim solenoids telescoped to form disk solenoids.



Some things have changed since 1921 such as better insulation and higher-permeability iron, but amps are still and amps and Oerstedes are still Oerstedes.

Build that perpetual motion machine that some people claim is possible. Or how about a flying saucer? Or how about just getting a copy for your reference library? When the need arises, you'll have rare information immediately available. Excellent book. Get one! 4 1/2 x 8 paperback 342 pages

No. 20960

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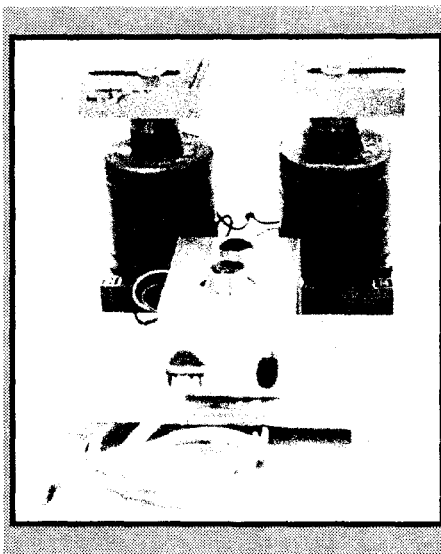
## Build a MAGNETIZER! Make & Restore Magnets

### HOW TO BUILD A MAGNETO MAGNETIZER

by Dave Gingery

Many people collect and restore old engines and in the process discover that the old iron magnets in the magneto have lost most or all of their magnetism. Without a healthy spark, the engine won't run.

Here, Dave will show you how to build a device to recharge these old magnets. It's certainly not a novel invention. What Dave has done is show you how to build a proven device from currently available materials, and at low cost.



You can recharge old magneto magnets, and create new iron magnets for experimental purposes. This will not recharge newer alnico, samarium, and similar alloy magnets since these need an enormous magnetic impulse beyond the capabilities of this machine. And beside these newer magnets usually don't go "dead" like "plain" ones.

Dave will show you how a magneto works, how to test one, how the magnetizer works and will show you in detail how to build one. He'll give you all the tricks on building the base, winding the coils, building and testing the power supply, and, of course, on using the machine.

You can build this machine quickly and inexpensively. Dave will show you how to avoid what few problems you might encounter. Great for engine restorers, science experimenters, or even as a science fair project. Geez! Maybe you can magnetize that bolt in your neck so you can attract beautiful women. Well... maybe not. Another great how-to manual from master builder, Dave Gingery. Order a copy today. 8 1/2 x 11 booklet 36 pages

No. 3008

\$7.95

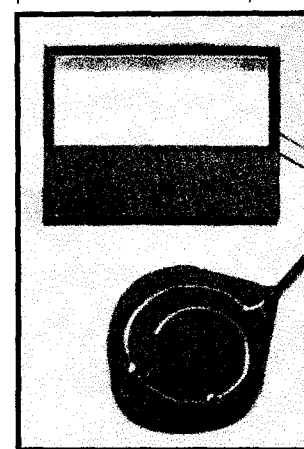
## HOW TO BUILD A SOLAR CELL THAT REALLY WORKS

by Walt Noon

Yes! You CAN build a solar cell that converts sunshine into electricity. And it's really quite easy.

Modern high efficiency solar cells based on silicon crystals are difficult and dangerous to manufacture. You would need exceptionally expensive equipment just to perform the most basic experiments. But fortunately there is another method.

Walt Noon will show you how to quickly and inexpensively build a copper oxide photo cell. Admittedly, its overall efficiency doesn't come close to modern silicon cells, but neither does the cost. You can crank out cells for pennies. Connect many cells in parallel and



series, and you can generate surprising amounts of power.

The process requires only simple tools. The chemicals, like all chemicals, can be dangerous if mishandled, but the worst is probably ni-

tric acid which is used to thoroughly clean the copper.

## Build a SOLAR CELL that really works!

He'll show you to make a working cell, test it, troubleshoot it if necessary, and even give you ideas on an experimental painted cell that he's working on. In addition, he'll give you schematics of test circuits, sample applications, and interesting projects that he's tried. You'll also get names and addresses of suppliers.

That author is not a professional, but he has safely built and used these solar cells, and he's willing to show you how its done. You get a 24 page booklet with many drawings, schematics and photographs that describes the relatively simple process in detail.

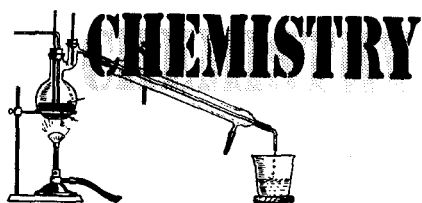
Build solar cells! Perhaps you can make some improvement in the process that will improve efficiency. Build electronic equipment. Charge batteries. Build a great science fair project. No matter what your objective, you'll find this to be a fascinating project worth trying. Rare information! Order a copy of this inexpensive booklet today.

5 1/2 x 8 1/2 booklet 22 pages

No. 819

\$4.95





**CHEMISTRY**

**A THOUSAND AND ONE FORMULAS –**  
**The Laboratory Handbook**  
**for the Experimenter**  
 by Sidney Gernsback  
 reprinted by Lindsay Publications

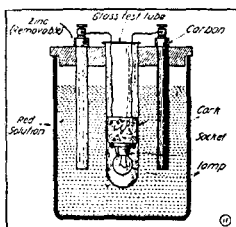
Here you get formulas on cements and glues, compositions of all kinds, glass and glass working, inks, leather polishes, metal-craft, perfumes, soaps, photography, blue-print and other papers, plating, pyrotechny, polishes and stains, varnishes and paints, cleaning compounds, wood-craft, chemical lab hints, mechanical lab hints, electrical lab hints, miscellaneous formulas and an appendix.

## 1001 FORMULAS

### Unusual 1920 Formulas for the Kitchen Chemist

Not everything here is useful in my opinion, and some of it is downright dangerous. Some of this looks like it came out of the Boy Mechanic books. Learn how to convert coin silver into pure silver, formulas for solders, lithographic ink, how to make a gasoline torch, recipes for killing flies, an experiment with thermit, hand grenades ???, flash-light powder like the old photographers once used, methods to copper-plate carbon motor brushes, and on and on.

A lot of this is quaint, and not directly useful. It's for kitchen chemists of the 1920's. But a few of the formulas and ideas are worth the entire price of the book. If you're trying to build a master reference library of unusual secret formulas, this book is certainly worth considering. Fun reading if nothing else. Get a copy! 5 1/2 x 8 1/2 softcover 160 pages  
 No. 20811 \$8.50



## Make Alcohol!

### Powerful homemade fuel!

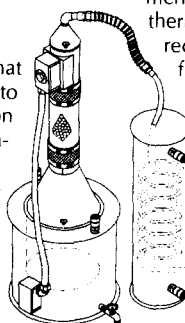
#### SECRETS OF BUILDING AN ALCOHOL PRODUCING STILL

by Vince Gingery

An intelligent person knows that hoarding gasoline is not a solution to fuel shortages. An intelligent person finds alternative solutions, and this machine is just such a solution.

Instead of trying to stockpile gasoline, you can make your own substitute out of sugar, corn, potatoes, or almost anything you can ferment into alcohol. This still will remove the water, creating almost pure alcohol, nearly 200 proof, so you can burn it in just about any type of engine.

Here Vince will teach you how to take common plumbing parts, copper sheeting, and standard electrical parts and build a 6 gallon capacity still. He'll show you how to malt, mash, and ferment corn into fuel and turn it into fuel. And



Vince will show you how easy it is to get a license and do all this with the blessing of authorities.

The still heats the wash with a water jacket in which is immersed a 120 volt water heater element. Temperature is controlled with a continuous thermostat. Eventually vapors boil through the rectifying column to the condenser. If you carefully maintain the precise temperature, you'll get almost pure alcohol.

The fuel you produce is not going to be cheaper than gasoline unless you have a low cost source of fermentables and want to make a version you can fire with scrap wood or coal. But if you can't buy gasoline at any price, even alcohol at three or four dollars a gallon is a bargain.

I'm sure you could use the still to make whiskey and brandy. But I'll tell you up front, that's against the law whether you sell it or not. The Feds want their taxes. If you're going to make moonshine, don't tell me about it.

Greatbook! Be independent. Thumb your nose at the corner gas station. Build a still, and make fuel. Order a copy. 8 1/2 x 11 softcover 76 pages  
 No. 6060 \$11.95

## Distillation of Alcohol

### Incredible 1907 Alcohol Fuel Manual

#### DISTILLATION OF ALCOHOL AND DE-NATURING

by F. B. Wright

reprinted by Lindsay Publications

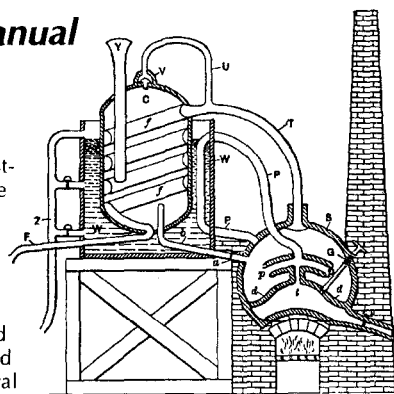
You can make industrial alcohol from anything fermentable. Here is one of the very best books you'll ever find on the nitty-gritty details of fermenting grain, fruit, potatoes, and more into a valuable fuel.

Chapters include alcohol, its forms and sources; preparation of mashes and fermentation; distilling apparatus; modern distilling apparatus; rectification; malting; alcohol from potatoes; alcohol from grain, corn, wheat, rice, and other cereals; alcohol from beets; alcohol from molasses and sugar cane; alcoholometry; distilling plants, their general arrangement and equipment; denatured alcohol, and denaturing formulae; denaturing regulations in the United States (now no doubt obsolete).

You get many, many illustrations of stills, and their equipment. You also get drawings of a potato steamer and crusher, a storage cellar for beets, a roll press for beets, a molasses fermenting house and more. You get recipes and the precise details on mashing.

This is fuel, and engines aren't too fussy about the booze they consume. If your goal is to make whiskey, you're on your own. It's against the law.

Great book! Originally copyrighted in 1907. Loaded with detailed how-to. Tremendous reference and source book for survivalists, farmers, Snuffy-Smith-types, chemistry buffs, and the curious. Good stuff. Get a copy. 5 1/2 x 8 1/2 softcover 271 pages  
 No. 21427 \$14.95



#### PRACTICAL DISTILLER

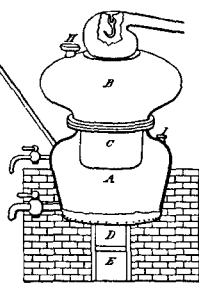
by Leonard Monzert

reprinted by Lindsay Publications

Make moonshine! Poison yourself!  
 Go blind!

From 1889 comes this little gem of a book showing how to distill "Brandy, Gin, Rum, Whiskey, Arrack, Poteen, etc., all of which owe their respective intoxicating properties to the amount of alcohol which they contain."

While other books show you how to make fuel alcohol, this one will show you the equipment you need to make booze. Included are discussions on the still and appurtenances, the farmer's still, directions for erecting a distillery, running a charge, the doubler, distillation of liquors, rectifying or leaching, alcohol refining,

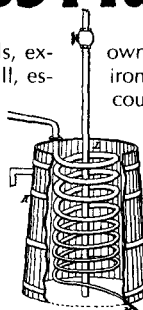


fume, and even vinegar.

If you intend to make booze, you're on your

own. Moonshine stills were made with galvanized iron, old radiators, and other nasty metal that could poison you. Besides, "white lightning" tastes like lightning because it isn't aged or mellowed in barrels. It's nasty stuff. And you'll find little information here on turning out really good whiskey. This is a book on equipment, not gourmet cooking.

Making booze without a permit is illegal. The government wants its taxes. You can use the equipment to make fuel alcohol for your car, per-



distillation of volatile oils, extracts, the water bath still, essences and liqueurs, blending and compounding and more.

A great curiosity. Rare information. I won't tell the WCTU or BATF you're ordering copy.

5 1/2 x 8 1/2 softcover 156 pages

No. 4589

\$8.95

## Monzert's 1889 Practical Distiller



## Chem Cross Reference!

*Translate Obsolete Old-Fashioned Chemical Names*

We have kept unusual and probably incorrect spellings. We have made no attempt to verify that the definitions are correct. What we have done is provide you with one master list of the best equivalents we could find. We've already found it useful, and you will too. Get a copy for your reference library. 5 1/2 x 8 1/2 softcover 44 pages

No. 20170 \$5.95

# MANUAL OF FORMULAS

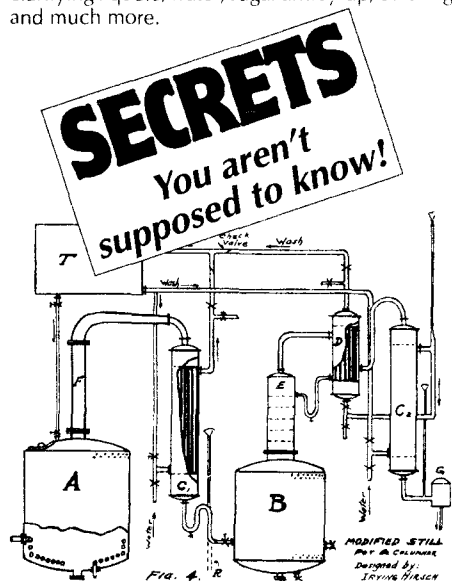
Here's a great low cost collection of hundreds of formulas on just about every subject you can imagine compiled from the pages of Popular Science Magazine and published in 1932.

You'll learn how to mix up compounds for polishing and plating metal. Learn how to blacken brass, blue steel, to make silver nitrate from old spoons, mix up low temperature alloys, dry flowers, brew wine, re-ink typewriter ribbons, make blueprint paper, dye cloth, make flypaper and much more.

Unlike other formularies, this one is new enough to be useful and old enough to have unusual formulas. And the price is quite reasonable compared with the large volumes which are interesting but often contain many formulas that are of little practical value. An interesting book of definite value. Order a copy today. 4 1/2 x 8 softcover 250 pages

\$9.95

Chapters include whiskey, treatment of grain, rye whiskey, distillation of liquors, distillery equipment and appliances, manufacture of brandy, of apple-jack, of pear brandy, of slivowitz, of fruit brandy, of rum, of gin, of miscellaneous liquors, of cordials, blending, maturing of spirits [very important], artificial maturing of spirits [trade secrets?], clarifying liquors, water, sugar and syrup, coloring and much more.



# Mfg of Whiskey, Brandy & Cordials

Although I'll never make my own booze, I found this book interesting because this kind of information is never published. It's passed on through apprenticeships. The text is typewritten, and the illustrations are industrial. I get the overpowering feeling that this is information that the government and especially the distilling industry wants to keep to itself.

Excellent, rare information. An interesting book on something that people have enjoyed and gotten into trouble with since the beginning of time. Get a copy and enjoy it. Order a copy today!

5 1/2 x 8 1/2 softcover 183 pages

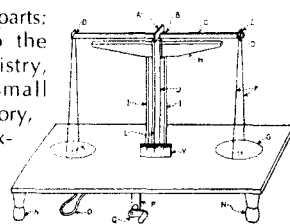
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## Build a Laboratory!

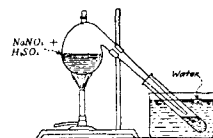
The subtitle reads "A book for beginners setting forth the fundamentals of chemistry in easily understandable terms. The many interesting experiments, together with the wealth of chemical knowledge contained herein, make this book indispensable to the student chemist and amateur experimenter."

You get three parts: introduction to the study of chemistry, equipping a small chemical laboratory, and chemical experiments. Within each part are many,



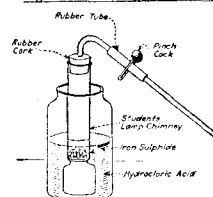
many little sections on individual topics such as the law of combining weights, acids and bases, experiments in electrochemistry, fire clay crucibles, filter paper, beakers, fractional distillation, experiments in catalysis, cutting glass tubing, sealing a platinum wire into glass, experiments with aluminum hydroxide, sulfur dioxide, sulfuric acid, platinum wire flame tests, and much, much more.

You get illustrated suggestions on how to build various pieces of equipment such as laboratory shelves and benches, an exhaust hood, an alcohol burner, a small chemical balance, a test tube holder, a ring stand, a hydrogen sulphide generator, a small electric furnace and much more.



near balance, a test tube holder, a ring stand, a hydrogen sulphide generator, a small electric furnace and much more.

Reading this is not going to make you an expert chemist. This was put out in 1920 and 1939 when people wanted to experiment with chemistry. It's fun reading with great ideas. Just the details on building a sensitive lab balance is worth the price. And the electric furnace should melt steel!



Some of this of these experiments are certainly dangerous. You had better research safety before you try some of this

stuff. Common sense is necessary. I warned you.

Fascinating handbook that is almost impossible to find these days. (It's now environmentally incorrect...) Interesting reading. Get a copy. 6x9 softcover 140 pages

No. 21737

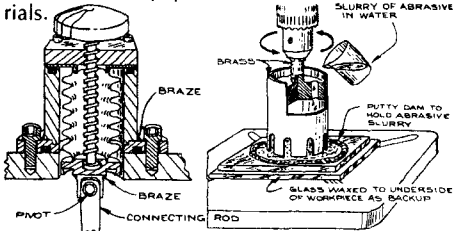
\$9.95

## BUILDING SCIENTIFIC APPARATUS

### A Practical Guide to Design and Construction

by Moore, Davis, Coplan & Greer

The ultimate equipment book is *Procedures in Experimental Physics* offered elsewhere in this catalog. This book is the modern equivalent. I don't think this volume in any way surpasses *Procedures* but it is the closest thing I've seen yet. And it's about equipment built with modern materials.



## BUILD SCIENTIFIC APPARATUS!

Chapters include: mechanical design, working with glass, vacuum techniques, optics, charged-particle optics, electronics, measurement and control of temperature. You also get references and a list of manufacturers and suppliers.

You'll learn about metals, alloys and their use in fabrication. You'll learn about bearings, working glass tubing, grinding and drilling glass, vacuum gauges, mechanical vacuum pumps, cryopumps, vacuum system design, cleaning optical components, features of laser design, spectrometers, Fabry-Perot interferometers, photovoltaic detectors, electron gun design, fringing-field correction, charged-particle detection, designing and building electronic equipment and much more.

You get great drawings, charts, diagrams, equations, and more. This is modern hi-tech stuff. IC's and transistors are fabricated from semiconductors, but semiconductors also produce light. You've heard of silicon, probably germanium and gallium arsenide. But how about cadmium telluride? It's available from Kodak under the name Itran 6, and transmits out to 31  $\mu$ m! What do you need that for? I don't know. But neither will you unless you know this stuff is available. Then your imagination can dream up ingenious new uses.

You could be the first in your neighborhood to build a duoplasmatron ion source or a Mach-Zehnder interferometer. You could even put a bellows-sealed, wobble-drive, rotary-motion feedthrough on the mantle. Now wouldn't that raise the eyebrows of the roach exterminator next time he sprays your living room?

Knowledge of the contents of this book will push you beyond the level of the average machinist/handyman. And whether or not you use much of this material is not that important. The more you know, the more creative you can be because you have the raw material to synthesize new ideas. A smart mechanic will use this as an idea book if nothing else.

If you like to build unusual equipment, this belongs on your shelf next to *Procedures in Experimental Science*. Get a copy! 8 1/2 x 9 softcover 549 pages

No. 532 \$43.25

## PROCEDURES IN EXPERIMENTAL PHYSICS

by John Strong  
reprinted by Lindsay Publications

If you consider yourself an experimenter, an inventor, or a builder of unusual machines and equipment, you must have a copy of this fantastic classic text. No two ways about it.

You'll find wall-to-wall practical how-to and incredible illustrations on almost every one of the more than 600 pages. Chapters include: laboratory glass blowing, laboratory optical work, technique of high vacuum, coating of surfaces by evaporation and sputtering, the use of fused silica, electrometers and electroscopes, Geiger counters, vacuum thermopiles and the measurement of radiant energy, optics, photoelectric cells and amplifiers, photography in the lab, heat and high temperature, notes on the materials of research, notes on the construction and design of instruments and apparatus, and molding and casting.

This is some incredible stuff! Learn how to blow glass and make aspirators, distillation condensers, and so on. Learn how to seal copper to glass so that you can imbed electrodes. Learn how to rough cut lens blanks from large plates of glass and then grind them into lenses on your homebuilt lens grinder.

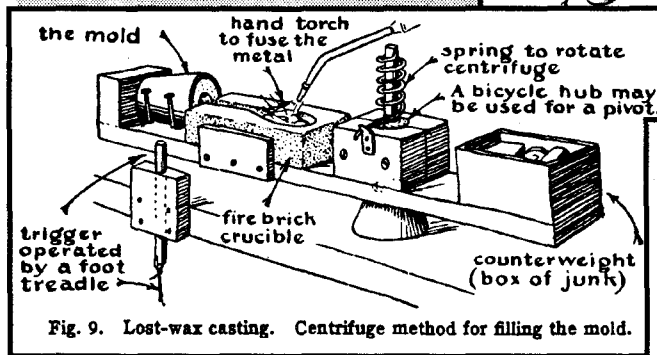


Fig. 9. Lost-wax casting. Centrifuge method for filling the mold.

Learn how to make a parabolic telescope mirror using the standard techniques. Learn to make unusual equipment to test the finished mirror. Learn how to grind a Schmidt lens.

Build high vacuum roughing pumps, getters for creating the highest vacuums, diffusion pumps using mercury and oil and much more. Silver mirrors, even with aluminum! Manipulate fused quartz strands to build a microbalance sensitive down to a billionth of a gram per division! And there's so much more!

Build a Compton adjustable quadrant electrometer, a Hoffman electrometer, and others useful for x-ray and cosmic ray work. Build a Geiger counter. You can build your own Geiger-Mueller tube if you master the high-vacuum technique taught earlier. Unfortunately, most of the electronics described is based on vacuum tubes of fifty years ago rather than on transistors.

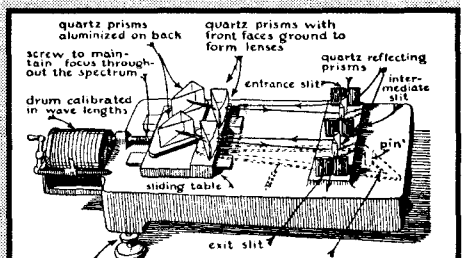
Build vacuum thermopiles that measure

## Procedures in Experimental Physics

Wall-to-Wall How-to! Classic Text! Incredible Illustrations!

infrared, visible light and ultraviolet so accurately that they can be used to calibrate photographic lightmeters and such. You've heard of carbon arc lights, but do you know how to build iron arc lights? Or low pressure mercury arc lights? And others? You can even build a machine to measure the wavelength of colored light.

You'll find details on hydrogen furnaces, crucibles, burners, electric arc furnaces, and even a lab setup for making artificial rubies



This cam sliding on the pin rotates the rear prism table maintaining minimum deviation throughout the spectrum. All the slits are separately adjustable. The entrance and exit slits are curved to compensate for prismatic distortion.

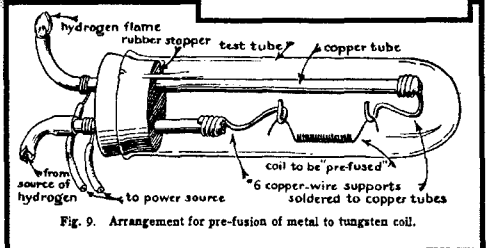
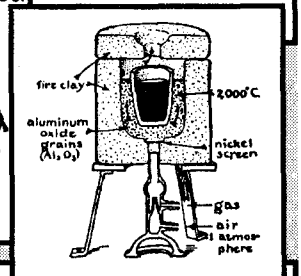


Fig. 9. Arrangement for pre-fusion of metal to tungsten coil.

and sapphires! And there's much more - even down to what we consider the "easy stuff" like using a lathe and sand casting.

This is a fantastic book loaded with construction secrets for unusual equipment that you should have. First published in 1938, this baby went through a couple of dozen printings! It's a classic. It's incredible. You should have a copy for reference if nothing else. Highly recommended. Order a copy today. 5 1/2 x 8 1/2 sewn softcover 642 pages

No. 4562 \$24.95



# Chemical Manufacturing Secrets

## 1872 Handbook!

**Everything from pig iron  
and nitric acid to bread  
and wine!**

### HANDBOOK OF CHEMICAL TECHNOLOGY 1872

by Rudolf Wagner

translated by William Crookes

reprinted by Lindsay Publications

In the 1872 German chemists were world famous, and Wagner's Handbook was the master reference for chemists the world over. This translation of the eighth German edition can be yours for much less than an original copy should you be able to find one.

And what a book it is!

You'll early and/or simple ways of making chemicals, refining metal, formulating glue, paper, dyes or just about anything else chemical in nature. I have never seen such a comprehensive collection of incredible technological detail in a single volume anywhere else.

Want to refine iron ore into steel? Want to make sulphuric acid? And use it to make nitric acid? And use it to make explosives? Care to brew beer? How about a batch of whiskey? A loaf of bread? And on, and on, and on. You get a whole encyclopedia in a single volume — 745 pages of small type with 336 illustrations mostly of manufacturing apparatus.

This is not really a cookbook. You won't find step-by-step instructions. But you will find more detail on a wider variety of basic essential processes (many of them made obsolete by more complicated processes) than in

any other volume. For instance, if you're investigating the tanning of hides, making illuminating gas, charcoal, soap, or anything else, you'll find that this single volume can provide more information in less time than a search through most libraries for a month of Sundays.

Yes, this is an expensive volume, but you actually get more than what you pay for. This is quality. Today we have sophisticated, hi-tech processes that are closely guarded industrial secrets. Here you learn how it was done before large corporations and PhD chemists took over production. Be warned, though. This is old world thinking. You run the risk of poisoning yourself. These methods can be and probably are dangerous.

This incredible classic text will definitely fill a void in your reference library. I've never seen anything like it. And it's almost a sure thing you haven't either. It's expensive, but it's worth every penny and then some. Order a copy. You won't be disappointed. 5 1/2 x 8 1/2 hardcover 745 pages 332 illustrations

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\$29.95

FIG. 265.

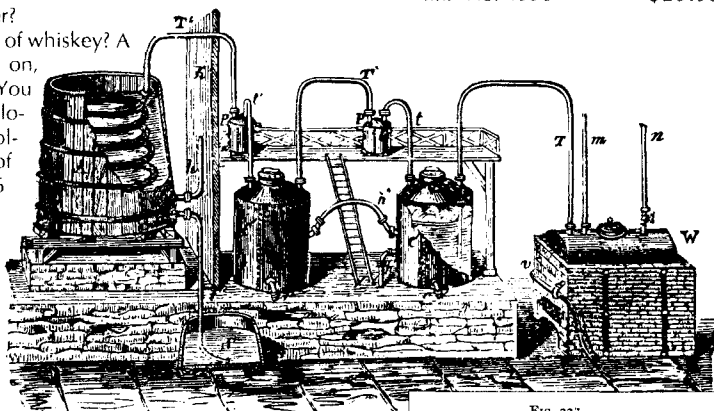
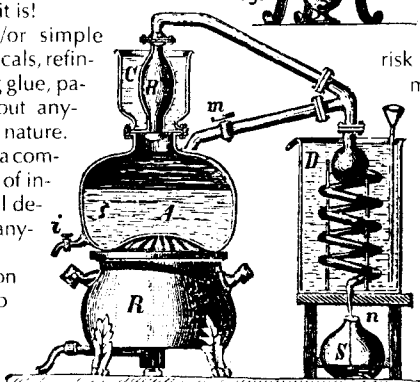
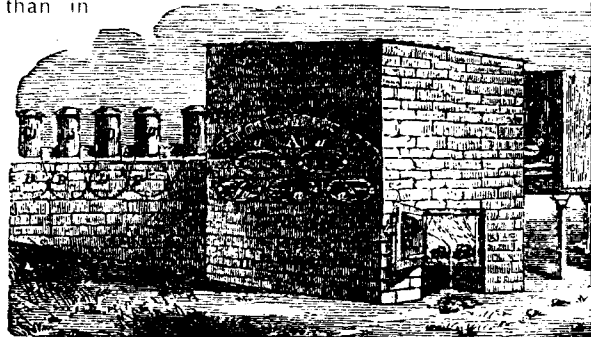
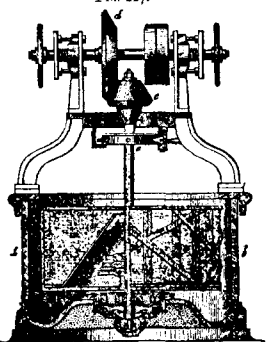


FIG. 227.



# CONTENTS

• **Division I** — Chemical Metallurgy; Alloys; and Preparations Made and Obtained from Metals. Iron; Pig or crude iron; Malleable, bar or wrought-iron; Steel; Iron Preparations: Cobalt; Nickel; Copper; Preparations of Copper; Lead; Preparations of Lead; Tin; Preparations of Tin; Bismuth; Zinc; Preparations of Zinc; Cadmium; Antimony; Antimonial Preparations; Arsenic; Quicksilver or Mercury; Preparations of Mercury; Platinum; Silver; Gold; Manganese and its preparations; Permanganate of Potassa; Aluminum; Magnesium; Electro-Metallurgy

• **Division II** — Crude materials and products of chemical industry — Carbonate of Potassa; Saltpeter, Nitrate of Potassa; Nitric acid; Technology of the Explosive Compounds — gunpowder, and the chemistry of fireworks or pyrotechny; Nitroglycerine; Gun-cotton; Common salt; Manufacture of Soda — native soda; Soda from plants or soda-ash; Soda Prepared by Chemical Processes; Preparation of Iodine and Bromine; Sulphur; Sulphurous and Hyposulphurous Acid; Manufacture of Sulphuric Acid; Sulphide of Carbon; Hydrochloric Acid and Glauber's Salt, or Sulphate of Soda; Bleaching Powder and hypochlorites; alkalimetry; Ammonia and ammoniacal salts; Soap making; Boric or boracic acid, and borax; Production of alum, sulphates of alumina, and aluminates; Ultramarine

• **Division III** — Technology of Glass, Ceramic Ware, Gypsum, Lime & Mortar Glass manufacture; Ceramic or earthenware manufacture including hard porcelain, tender porcelain, stoneware, Fayence ware, common pottery, brick and tile making; Lime and lime-burning; Mortar including common or air-setting mortar and hydraulic mortar; gypsum and its preparation

• **Division IV** — Vegetable Fibers and Their Technical Application — Hemp; Cotton; Paper making — hand paper, machine paper, pasteboard and other paper; Starch; Sugar manufacture; Cane Sugar; Beet-root; sugar; Grape sugar; Fermentation; Wine-making; Beer-brewing; preparation or distillation of spirits — preparation of vinous mash and distillation of the vinous mash; Bread baking; Manufacture of vinegar; Preservation of wood; Tobacco; Technology of essential oils and resins; Cements, lutes and putty

• **Division V** — Animal Substances and Their Industrial Application — Woollen industry; Silk; Tanning; Glue Boiling; Manufacture of Phosphorus; Requisites for producing fire; Animal charcoal; Milk; Meat

• **Division VI** — Dyeing and Calico Printing — Aniline colours; Carboic Acid colours; Naphthaline pigments; Anthracen pigments; Pigments from Chinchonine; Red Pigments occurring in plants and animals; Blue dye materials; Yellow dyes; Bleaching; Dyeing of spun yarn and woven textile fabrics; Printing of woven fabrics

• **Division VII** — Materials and Apparatus for Producing Artificial Light — Artificial light from candles; Illumination by means of lamps; Gas; Paraffin and solar or petroleum oils; petroleum

• **Division VIII** — Fuel and Heating Apparatus — Fuel; Wood; Peat; Carbonized peat; Brown-coal; Pit coal or coal; Petroleum as fuel; coke; artificial fuel; gaseous fuel; heating apparatus; heating dwelling houses; boiler heating and consumption of smoke

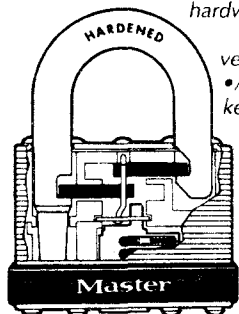
# Locks and Locksmithing!

LOCKS & LOCKSMITHING  
3RD EDITION

by Roper & Phillips

From the back cover:

"Whether you're an experienced locksmith, someone who's just starting out in the locksmithing business, or a do-it-yourselfer who wants to put in his own security system, there is no better place to turn for guidance in selecting, installing, and maintaining today's most advanced locks and security hardware..."



You'll find the very latest information on

•All kinds of locks and keysets - including padlock, warded, lever, disc-tumbler, pin-tumbler cylinder, double-bitted, and combination  
•Home, business, office, automotive, auxiliary door, and vending machine locks •High-

security mechanical locks and electrical access and exit control systems •Master keying systems •Lock decoding, lockpicking, and emergency entry tools and procedures •The business and law of locksmithing, including standards for locksmith licensing, bonding, and certification •Locksmithing equipment manufacturer and suppliers •Plug follower and holder diameters for today's most popular locks..."

This is a book we have offered for many years - updated and better than ever. Loads of illustrations and practical how-to. Excellent book. Order a copy today! 7 1/2 x 9 softcover 437 pages No. 110 \$24.95

# Ancient Inventions Fascinating book!

ANCIENT INVENTIONS  
WONDERS OF THE PAST!

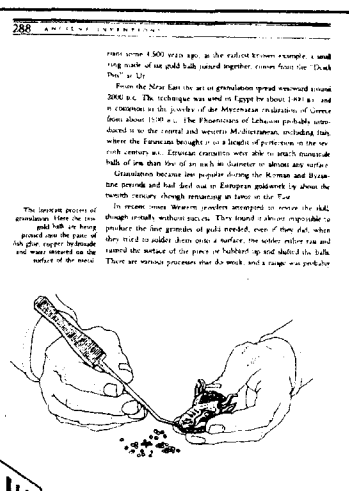
by Peter James and Nick Thorpe

A few of the people who read this catalog will actually admit "I don't wanna know nuthin' but how to build this here machine. Nuthin' else..." But I like to think that most of the people who submit themselves to the verbal torture I hand out in these catalogs are at least a bit more intellectual than that. If you're one of those people who are curious about how our world got to be the way it is today, then check this out.

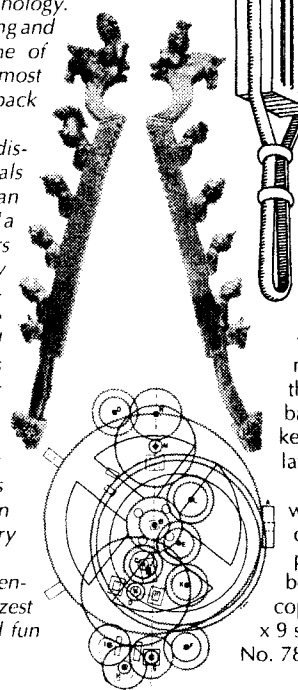
"We in the twentieth century tend to assume that our era has a monopoly on the inventions of clever machines, labor-saving devices, feats of engineering, and advanced technology. But as the authors of this fascinating and eye-opening book reveal, some of humankind's most important and most amazing inventions actually date back thousands of years..."

Written with the pure joy of discovery, *Ancient Inventions* reveals that: •medieval Baghdad had an efficient postal service, banks and a paper mill •rudimentary calendars were being used in France as early as 13,000 bc •apartment condominiums rose in deserts of the American Southwest a thousand years ago •the ancient Greeks used an early form of computer •plastic surgery was being performed in India by the first century bc •the Egyptians knew about effective contraceptives •flamethrowers were used in battles waged in tenth-century China

Brimming with odd facts and entertaining curiosities, written with zest and humor, comprehensive and fun to read..."



(left) Antikythera computer, stone paper beater, human castration clamp



Chapters include medicine, transportation, high tech, sex life, military technology, personal effects, food and drink, urban life, working the land, house and home and more.

Within the chapters are smaller fast reading illustrated sections on individual inventions such as electric batteries, sex toys, hand grenades, poison gas, soap, wigs, tattooing, fish and oyster farms, tunneling, chewing gum, refrigeration, the steam engine, diving gear, clocks, ballooning, false limbs, glass windows, keys and locks, keyboards, telegraphy, lavatories, and much, much more.

This is a big book loaded with fascinating reading. If you are one of those people who finds thinking painful, don't order this. If you want to be surprised and entertained, get a copy. I'm convinced you'll like it. 7 1/2 x 9 softcover 672 pages

No. 786

\$17.50

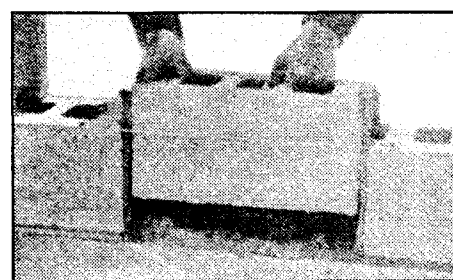
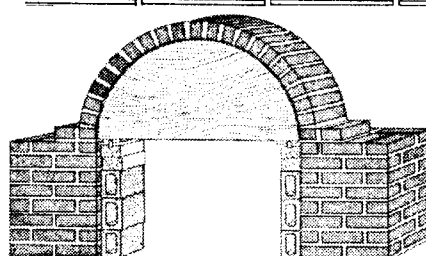
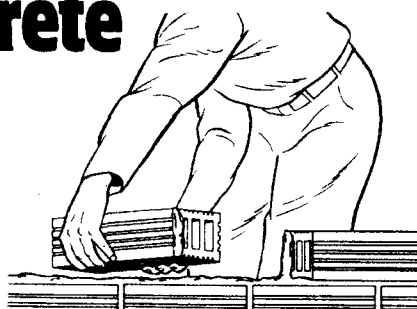
# Masonry & Concrete

CONCRETE, MASONRY AND BRICKWORK  
by the U.S. Army

Fortunately, Army brick walls are better than Army food. They usually taste better and are easier to digest. Here, you can learn to pour concrete and lay brick and block without having to enlist.

"Any home owner who wants to build a patio, driveway, porch, retaining wall, permanent barbecue, or even a garage, will find the essential techniques and procedures of concrete, masonry and brickwork in this practical handbook..."

Part One covers concrete components: proportioning concrete mixtures book, trial batch, and absolute volume methods; form design and construction; construction procedures - excavation, formwork, mixing, handling and transporting, placing, finishing, curing, effects of temperature, form removal, patching; reinforced concrete construction, including precast concrete. Part Two continues with a general discussion of mason's tools, mortar and scaffolding; concrete masonry



characteristics of concrete blocks, construction procedures; brick and tile masonry characteristics, bricklaying methods, brick construction, and more. 37 tables present important statistical information in convenient form, and 177 figures lavishly illustrate all portions of the text."

This is just a good ol' Army training manual from 1970. You get a lot of great info at a very reasonable price. If you like this, maybe I can dig up an Army cookbook! Wouldn't that be frightening? 8 1/2 x 11 paperback 200 pages

Cat. no. 1322

\$9.95

## THINKERTOYS

by Michael Michalko

I haven't read all of this yet, but what I've read is great. Every human bean (or is it being?) has a tendency to get into predictable ruts, especially in his thinking. Tell someone something, and they're likely to believe it. They never question it. So how creative do you think these people are? Right. Zip.

# ThinkerToys

**Thirty eight chapters include: false faces, slice and dice, cherry split, think bubbles, tug-of-war, idea box, the toothache tree, Worriwillie's Guide to Prioritizing, rattlesnakes and roses, daVinci's technique, Dali's technique, Book of the Dead, and much more!**

People think I'm really creative on one hand, but get really upset with me because I question what they believe and almost everything they say. This book will teach you valuable techniques for looking at the world, throwing out the accepted BS, and ask "What's really happening here?". When you do that, you're well on your way toward being creative.

"In hindsight, every great idea seems obvious. But how can you be the person who comes up with those ideas?"

THINKERTOYS makes it easier with over 30 meticulously outlined techniques, and hundreds of hints, tricks, tips, and tales to turn anyone into a startlingly creative thinker...

[It] will teach you to generate ideas for new businesses, new products, product extensions, new markets, and new sales techniques..."

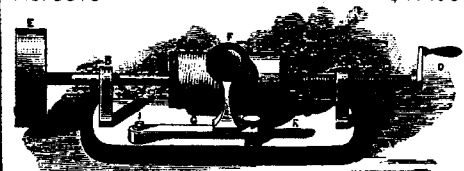
Creativity and the courage to act on it is the difference between being a leader or a follower, between being a success or a failure, or between being looked up to or down upon. Which are you going to be?

I know from experience that creative people make the world go around. Ask Tom Edison. Get hot! Get a copy of this and be a winner. I gotta go read some more of this...

7 1/2 x 9 softcover 335 pages

No. 5016

\$17.95



## Notebook 11 - PHONOGRAPH & ICE MAKING MACHINERY

From 1879 a short article on Edison's new phonograph. The rest covers refrigeration which was the cutting edge of technology at the time. You'll learn about unusual refrigeration processes long forgotten like the Johnston & Whitelaw machine, the Vander Wyde machine which used naphtha or even gasoline!!!, Kirk's cooling machine and others. Also included are formulas for chemicals which when mixed produce intense cold. Unusual! 5 1/2 x 8 1/2 booklet 14 pages

No. 880

\$2.75

# Practical Math! One of the Most Powerful Tools Ever Devised!

## PRACTICAL MATHEMATICS FOR HOMESTUDY

by Claude Palmer

reprinted by Lindsay Publications

Math is important to mechanics and machinists. It can mean the difference between having a design fail or getting it right the first time. If you're rusty on your math and need a good review, this is A great book to have.

Chapters include common fractions, decimal fractions, short methods, weights and measures, percentages, ratios and proportion, density and specific gravity, and powers and roots.

The geometry chapters cover plane surfaces, triangles, circles, graphical methods, prisms, cylinders, pyramids and cones, spheres, and other solids.

The algebra chapters include notation, formulas and translations, positive and negative numbers, addition and subtraction, exponents and powers, quadratic equations, variation, graphics, logarithms, angles, trig functions, trig tables, right triangle, and more.

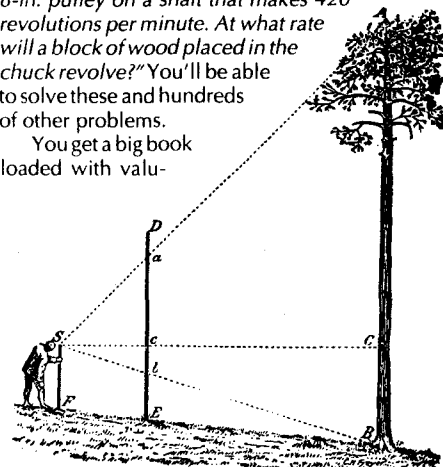
You'll learn the math in short, clearly explained lessons. Then you'll be asked to solve problems like "Two steam boilers of the same shape are respectively 12 ft and 15 ft long. Find the ratio of their surfaces." After you solve the problem, you can check it against the answer given.

Another problem asks "To what diameter should

a piece of stock be turned so that it may be milled to a hexagon and be 1 3/4 in. across the flats?"

Or solve this one: "The pulley on the headstock of a lathe is 3 in. in diameter. This is belted to an 8-in. pulley on a shaft that makes 420 revolutions per minute. At what rate will a block of wood placed in the chuck revolve?" You'll be able to solve these and hundreds of other problems.

You get a big book loaded with valu-



able lessons and practical problems. Get a copy and get going. 5 1/2 x 8 1/2 softcover 518 pages No. 4775 \$12.95

# Be A Speed Demon with Numbers!

## HOW TO CALCULATE QUICKLY

by Henry Sticker

"Do you want to double or triple the speed with which you calculate? Can you run a rapid mental check over the results of your calculating machines? Can you check bills worked out for you by grocery store cash registers, on waiters' checks, on department store charge accounts? Or do you simply take their word for the disposal of your money? Don't envy friends who can perform these calculations with lightning speed and complete accuracy..."

How to Calculate Quickly is a tried and true method for helping you in the mathematics of daily life - addition, subtraction, multiplication, division, and fractions.... This book teaches those necessary mathematical techniques which schools neglect to teach: Horizontal addition, left to right

multiplication and division, etc. You will learn a method of multiplication so rapid that you'll be able to do products in not much more time than it would take to write the problem down on paper..."

If you're not afraid of a milling machine or a ladle full of molten metal, then why should you be afraid of numbers on paper? On in this case, in your head? Math is a tool. Anyone who avoids math because they're intimidated by it is letting an extremely powerful tool go unused. This inexpensive book of tricks can help you get better use from simple math. Valuable for everyone. Dirt cheap. Get a copy. 5 1/2 x 8 softcover 185 pages

No. 598

\$3.95

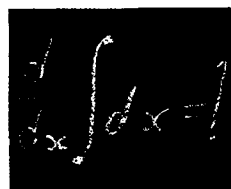
# Calc Made Easy

## CALCULUS MADE EASY

by Silvanus Thompson

Fear is often the biggest obstacle to learning math — all those strange symbols! When a calculus book starts out in the first sentence of first paragraph on the first page explaining what the most scary symbols mean, you know it's a good book. The author obviously wants to teach you something rather than scare you.

Any scientist or engineer will tell you calc is a tool not much different from a welder or a lathe. But I took calc from a mathematician in college, and that jerk thought calc was an art form! Most of the time I didn't know what he was talking about (I'm not sure he did either).



Who's looking for beauty in numbers? I need to solve problems.

This shows you how useful calculus is. It is as practical an approach as I've ever seen, and the author really takes the fear and confusion out of teaching this math.

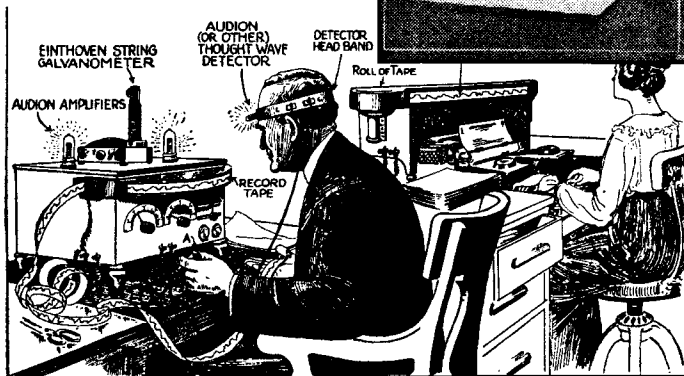
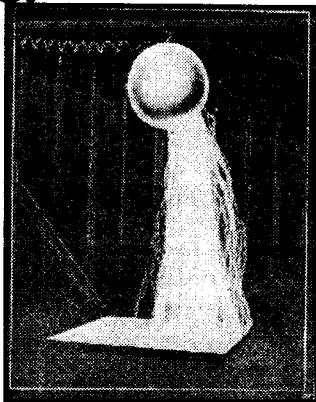
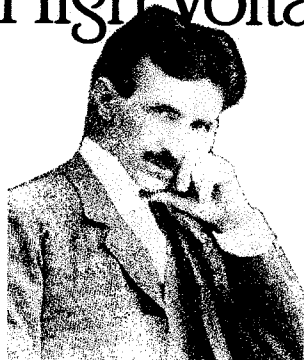
Don't get me wrong. Just thumbing through this book is NOT going to teach you calc. You're going to have to work at it. But Thompson's approach is down to earth, and he covers it all: differentiation and integration. And this is 90% of the heavy math you see in engineering books.

A lot of book for the money!

If I had had this book at the same time I had that madman mathematician, I probably would have learned a lot more. It's too late for me, but not for you.

Order a copy. 5 1/2 x 8 1/2 softcover 250 pages. No. 52 \$8.95

# High Voltage!



## Strange Stories from Electrical Experimenter Magazine

STRANGE STORIES FROM ELECTRICAL EXPERIMENTER MAGAZINE

reprinted by Lindsay Publications

In perusing our collection of *Electrical Experimenter* magazines from 1917-1919, I've found a lot of useless garbage, but among that garbage are some unusual stories that I thought should be reprinted and brought to light. Most of these are connected to the hero of the era, Nikola Tesla. No doubt, some of these have been reprinted and circulated elsewhere. I'm sure a few have never been reprinted.

Stories included are gravitation and electricity; can electricity destroy gravitation; a novel Tesla steam electric clock; electrical production of synthetic gasoline; Tesla's egg of Columbus; My Inventions— the discovery of the Tesla coil and transformer (by the man himself!); the thought recorder; the true wireless (by Tesla); and home treatment of tuberculosis by high frequency currents.

Some of these ideas are so off-the-wall that I don't believe them, but you read them and decide. Professor Nipher claimed he found an interaction between electricity and gravity. He experiments are described in detail. Tesla's clock is a description with photo of the steam driven alternator that drove the highly accurate clocks installed in Tesla's lab. If you want to try to synthesize gasoline

with a Tesla coil, I don't want to be standing nearby!

Discover how Tesla amazed an investor by making metallic eggs spin on their axis using polyphase electromagnetic fields. Tesla reveals how he came to invent his famous high voltage transformer and his early experiences in America and with Edison. Gernsback himself describes a fantastic device that he thought might record thoughts, and it looks like an ECG machine. Then Tesla and his monumental ego tries to prove that he was the true inventor of radio, although Hertz beat him to it by a number of years. (He goes on, and on, and on with diagrams and evidence.) Finally, YOU can try to cure your TB with a Tesla coil, but I think I'll stick with antibiotics, thank you.

Whether you believe these stories or not, this is interesting reading. We scanned in the original articles into the computer and reset them to make them easier to read and keep the price down. You get all the text, illustrations, and captions. It's all here in one inexpensive book. If you're into offbeat, fringe science, maybe you'll find a new mystery to explore. Fun stuff. Get a copy. 5 1/2 x 8 1/2 softcover 64 pages

No. 21613

\$6.95

## Experimenter's Introduction to Vacuum Technology!

An Experimenter's Introduction to VACUUM TECHNOLOGY by Steve Hansen

Get started in the world of vacuum. After you learn what's here, you'll be ready to jump into the world of very high vacuum.

Take a refrigerator compressor and turn it into a vacuum pump. Build a glow discharge tube powered by a high voltage supply built from a modified TV flyback transformer. Make thermocouple gauges with op-amp controllers. Learn how to seal up equipment with o-rings, compression fittings, nylon washers, and more. Build a replica of a very early cathode ray tube, the Braun tube. Build a cold cathode CRT. Build a radiometer. Build a plasma sphere — one of those spheres with the dancing colored electric arcs that change when you bring your hand near. And you can always re-enact the famous Magdeburg sphere experiment of the 1600's.

Chapters include means of producing vacuum, vacuum technology, materials, vacuum applications and pressure ranges, low cost mechanical pumps, simple gauges, useful flanges and connectors, a simple vacuum workstation, a manifold for gaseous discharge and electron beam experiments, experi-

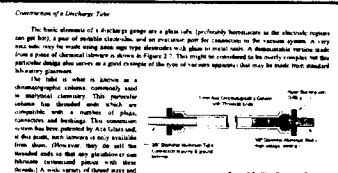


Figure 2-1: Glow Discharge Tube

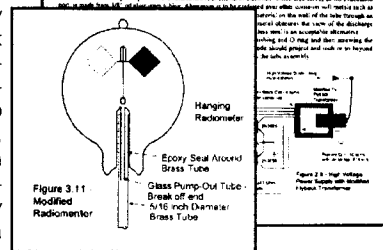


Figure 3-11: Modified Radiometer

ments with glow discharge poudred electron beams, the radiometer, a plasma sphere, Magdeburg hemispheres, along with lists of suppliers and references.

These are reprinted articles from Hansen's newsletter "The Bell Jar". Each is clearly explained, illustrated, and is proven how-to using modern materials. Everything here is meat. No fluff. Worth having. Get a copy. 8 1/2 x 11 booklet 39 pages

No. 3018

\$14.95

## TESLA'S ENGINES A NEW DIMENSION FOR POWER

compiled by Jeffrey A Hayes

Some of this material was once covered in a book called *Boundary Layer Break-through THE BLADELESS TESLA TURBINE* compiled by Jake Possell. This appears to be a rewrite of the original, expanded and improved.

In 1909 Nikola Tesla applied for a patent on his bladeless steam turbine that could generate ten horsepower per pound of weight. Actually, the patent

## Tesla's Engines

granted in 1913 was entitled "Fluid Propulsion" because the turbine could also be used as an efficient pump. Today, Tesla fans claim that this turbine is the solution to many of our energy problems, and that the modern world is ignoring one of the greatest inventions ever. You'll have to decide for yourself.

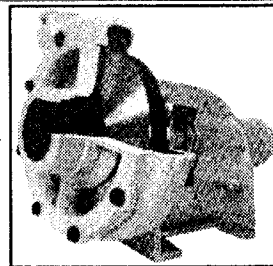
Here you get a collection of articles on the turbine/pump. Chapters include Tesla Gasoline Engine, Sea Power Plant Designed by Tesla, Tesla's New Fluid Propulsion, A Revolution for Electric Motors, New Inventions by Tesla, The Tesla Turbine (articles from *Pop Mechanics*, *Boys Book of New Inventions*, *Prodigal Genius*, others), and more.

You get many photos of applications, reproductions of the original patent plus related patents and much more. You'll get info on the Tesla Engine Builders Association which could open up new avenues of experimentation for you.

This is an offbeat, quality book on an unusual topic. You hear a lot about Tesla's electrical inventions, but little about his machines. Get a copy of this. 5 1/2 x 8 1/2 softcover about 224 pages

No. 1307

\$19.95





# High Voltage!

## HIGH FREQUENCY APPARATUS

by Thomas Stanley Curtis  
reprinted by  
Lindsay Publications

By 1916 so much interest in induction, Tesla and Oudin coils had been generated by Electrician & Mechanic, Popular Electricity and Modern Mechanics, and The World's Advances magazines, that Curtis knew his book and high voltage

## High Frequency Apparatus

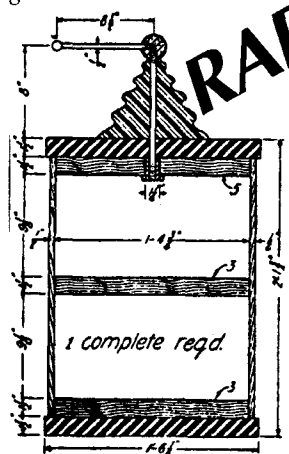
Rare Classic Text from 1916! A "Must-Have"

equipment he manufactured would be a hit.

Because of their very nature, magazines could publish only brief articles on these lightning bolt generators. Curtis went the other extreme, and packed "Apparatus" with as much detailed information as he could find. Then he added suggestions for experiments and dozens of illustrations. The result is now a classic book, and original copies are so coveted that they're difficult to find.

You get wall-to-wall how-to on coil construction. Tips on calculating windings, winding coils, making transformers, interrupters and spark gaps, and even the power transformers that drive the spark gap.

If you want to die young, you can build an X-ray apparatus. Use it long enough, and you and everyone in your apartment building will glow in the dark!



Build a grid and see for yourself if high frequency current really does affect plant growth. Build yourself a large coil that produces 50" lightning bolts, give lectures, and make people think you are a genuine made scientist.

Great book. And absolutely MUST HAVE book for the Tesla coil experimenters. Get a copy for your high-voltage library. Quality. Order a copy today. 5 1/2 x 8 1/2 softcover 247 pages well illustrated  
No. 20030

\$12.95

## CONTENTS

- 1 Alternating Current at Low and High Frequencies
  - 2 How the High Frequency Current is Produced
  - 3 The High Potential Transformer or Induction Coil
  - 4 The Oscillation Transformer
  - 5 The Spark Gap
  - 6 Oscillation Transformers
  - 7 Induction Coil Outfits Operated on Battery Current
  - 8 Kicking Coil Apparatus
  - 9 One-Half Killowatt Transformer Outfit
  - 10 Quenched Gap Apparatus
  - 11 Physicians' Portable Apparatus
  - 12 Physicians' Office Equipment
  - 13 Hot Wire Meter Construction
  - 14 Notes for the Beginner in Electro-Therapeutics
  - 15 Plant Culture with High Tension Current
  - 16 High Frequency Plant Culture
  - 17 A Foreword on the Construction of Electrical Apparatus for the Stage
  - 18 Construction of Large High Frequency Apparatus
  - 19 Large Tesla and Oudin Coils for the Stage
  - 20 Construction of a Welding Transformer
  - 21 Hints for the Electrical Entertainer
- Appendix Parts and Materials - How Much They Cost and Where to Get Them

# Lightning Bolt Generators!

including high voltage test equipment, experiments, motors, more!

## Secrets of Building Electrostatic LIGHTNING BOLT GENERATORS

by Walt Noon

Generate lightning bolts of static electricity! Walt Noon will show you and explain the experiments he has run, the problems he has encountered, his solutions to those problems, ways to build low cost lightning bolt generators from parts on hand, ideas that yet need to be explored and much more.

Walt covers the electrophorus, his Rotostatic generator, his bizarre "Cat-o-Static" generator, motor speed controls, external Van de Graaff generators, the classic internal Van de Graaff generator, ideas for an extremely high voltage Van de Graaff, inductive electrostatic generators, the Diod generator, and more.

You'll find the equipment Walt has used to measure the voltages he has generated including his FET electroscope, neon lamp banks, spark gap volt meters, and more. Walt will show you how to build storage capacitors along with details of his successes and failures.

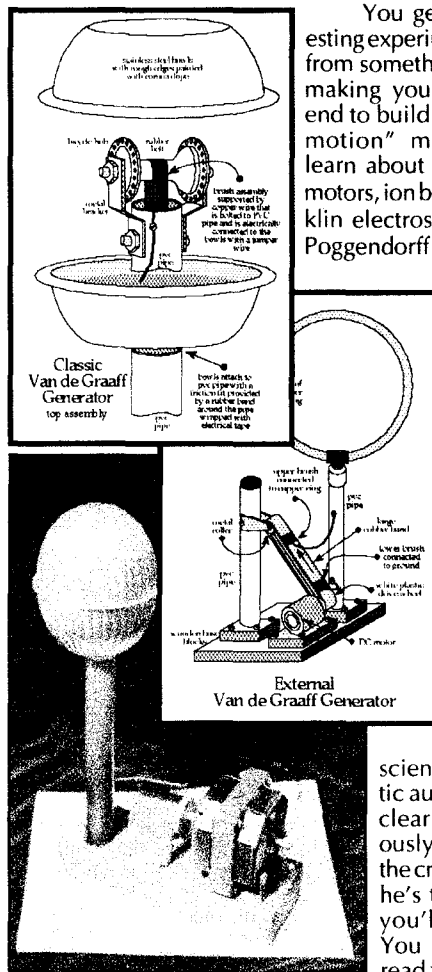
You get a list of interesting experiments to perform from something as simple as making your hair stand on end to building a "perpetual motion" machine. You'll learn about a variety of ion motors, ion blowers, the Franklin electrostatic motor, the Poggendorff Corona Motor,

and even capturing free electrical energy from the atmosphere (Ben Franklin did this, and it almost killed him!) As a bonus Walt will show you how he electroplates metal onto non-conducting forms to build low-loss high voltage terminals!

Walt is not a scientist nor a fantastic author. But he will clearly and humorously explain some of the crazy experiments he's tried and hopes you'll improve on. You get an easy-to-read text loaded with photos and drawings.

You'll find that it's really quite easy to get started in electrostatics, and Walt's book will get you going! Excellent book! Worth having. Get a copy.

5 1/2 x 8 1/2 softcover 91 pages  
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Because of the enormous expense of printing and mailing catalogs, we are forced to mail catalogs to only those people who are interested in receiving them. The best and only sure-fire way you can be assured of getting future catalogs is to order books. And that make sense. If you can't find at least ONE book in this catalog that interests you enough to order, then there's little reason to continue sending catalogs. So order today, and we'll continue to send catalogs!

# Ancient Radio Apparatus



REPRINTS FROM JULY 91 TO MAY 92

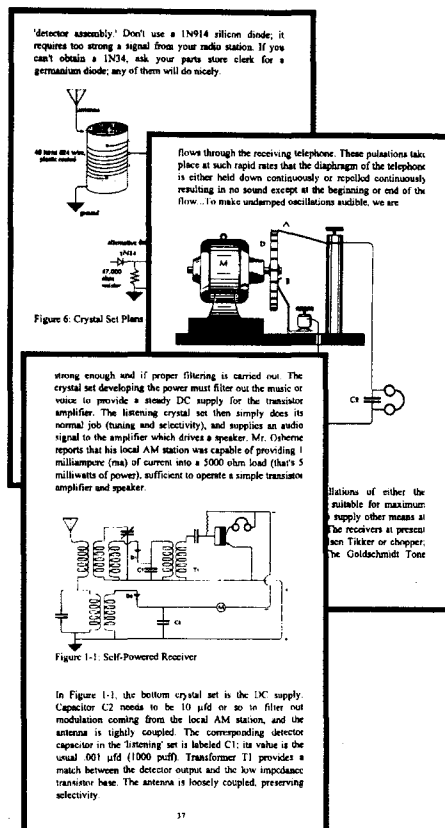
by Phil Anderson, W0XI

Radio can't get any simpler than crystal sets! Anyone can build one! But what do you do after you've wrapped an oatmeal box with wire? Here's your answer.

In July 1991 Phil Anderson from Lawrence, Kansas launched "The XTAL Set Society". You should have signed up. But you still can. And! You can find out what you missed by ordering a copy of this reprint of his newsletters for the first year. If you're into crystal sets, you'll find this interesting reading.

You get articles on building a basic field strength meter, a shortwave crystal set, "Why Did Those 1920s Crystal Sets Work Anyway?", a bare bones crystal set, an FM crystal set, a five part compression-capacitor crystal set (with part sources), a list of early articles on crystal sets, a toroidal crystal set, matching your antenna to your set for maximum signal reception, detector analysis, a 20 part crystal set, and other bits and pieces.

Yes, you'll find info on joining the society. Crystal sets are fascinating because of the challenge of getting more performance out of



less hardware - a move from complexity to simplicity. That's a refreshing change! I think you'll find this quite interesting. Get a copy! 8 1/2 x 11 plastic spiral binding about 36 pages  
No. 395 \$10.95

# Reprints from the Crystal Set Society

## XTAL SET SOCIETY VOL 2

by Phil Anderson W0XI

More interesting articles from July 92 to May 93 newsletters. Articles include: lead pencil detector, minimum detectable signal, detector biasing for improved sensitivity, double tuned circuits, universal crystal set, FM crystal sets, the electrolytic detector, the coherer revisited, Miller '595' Tuner revisited, and a galena detector from Italy, and more. Good reading. 8 1/2 x 11 plastic spiral binding 39 pages

No. 3003 \$10.95

## THE CRYSTAL SET HANDBOOK (VOL 3)

by Phil Anderson

Volume 3 of the Xtal Set Society Newsletter has been reprinted in the first three chapters. Topics covered include the Tikker Detector, shortwave crystal sets, the simplest crystal set, circuit alternatives, vendors and more.

Starting with chapter four you get basic essential background information on coil inductance formulas, coil 'Q' and coil capacitance, detector loading, matching techniques for maximum earphone volume, and

advanced matching. After a couple of wire tables and values, you get an extensive bibliography on crystal set books and magazine articles, some old and some relatively recent. You'll also learn how to join the Society, and you'll find out that the author has a PhD in engineering and is one of the founders of Kantronics.

You'll learn simple testing and design techniques that engineers use. Great accurate information. Consider it. 5 1/2 x 8 1/2 softcover 133 pages  
No. 3009 \$10.95

## XTAL SET SOCIETY NEWSLETTER VOL 4

edited by Phil Anderson W0XI

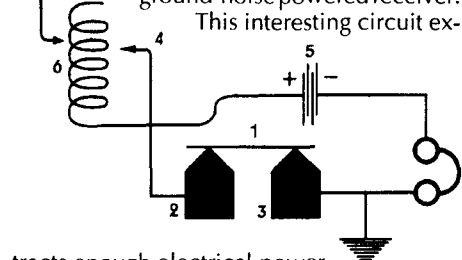
More articles! From 1994, including crystal set drive 400 ft vertical, a portable crystal set, foxhole razor blade set, two Quaker Oats radios, home-brew headphones, basketweave coil, measuring coil capacitance, formula derivation, home-brew curve tracer, home-brew headphone, crystal earphones, ten best crystal circuits, and more. Good stuff! 5 1/2 x 8 1/2 booklet 86 pages  
No. 3019 \$9.95

# The Latest!

## XTAL SET SOCIETY NEWSLETTER VOL V

by Philip Anderson

In these reprints of the 1995 newsletters you get a three part article on the design of unpowered AM receivers made from rocks which includes plans for building test equipment such as an impedance meter and a Q meter. You also get radio outfit in a headset, Marconi Type 107-A Tuner, the matching secret, and a great ground-noise powered receiver.



This interesting circuit extracts enough electrical power from two stakes driven into the ground to power a single transistor radio. (The free energy crowd will go nuts over this...). And there is much more. Same quality as the other volumes. Interesting. Get a copy. 5 1/2 x 8 1/2 softcover 88 pages  
No. 3042 \$9.95

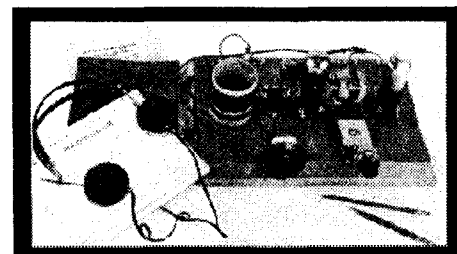
You can join the XTAL Set Society and get six issues of the newsletter for \$9.95, \$11.00 US for Canadians, and \$16.00 US outside the U.S.

## THE XTAL SET SOCIETY

PO Box 3026  
St Louis MO 63130

Tell 'em Lindsay sent ya...

# Become a 1930 Ham!



## HOW TO BECOME A RADIO AMATEUR

by the ARRL

reprinted by Lindsay Publications

Discover the 1930 amateur bands as they then existed, how to learn Morse code, how to build a two-tube (UV-201-A) bread board regenerative receiver for the 80 meter band, an oscillating transmitter using a UX-210 tube, an AC power supply, tips on setting up the radio station, and finally how to operate it. Great nostalgia. Discover early ham radio. Build early equipment. Lots of fun reading. Low cost. Get a copy.

8 1/2 x 11 booklet — 32 pages  
No. 20226

\$3.95

## Ancient Radio Apparatus



### Plugs Into LIGHT SOCKET

The new RCA tube used in this set actually does the work of three ordinary radio tubes, picking up the radio frequency signals, detecting them, then furnishing the audio frequency for the loudspeaker.

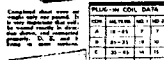
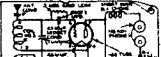
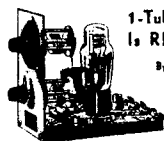
Normally, regeneration is used to make the set as sensitive and selective as possible. A potentiometer chained across the tickler winding of the plug-in coil serves as a regeneration control.

The Great Unifonic 1-2-3-4-5 circuit permits this set to be used interchangeably as an ultra-high or dark detector. The blue sounds of the five tubes are presented in series with a 250 ohm resistor feeding the speaker. In case a push button is desired for



### 1-Tube Short Wave Marvel Is RECEIVER or Adapter

By THOMAS A. BLANCHARD



WHETHER used as a short wave receiver or adapter, this little set will bring in better short wave broadcasts in Europe, South America, and Canada as well as from the many, long-distant, tropical stations who have never before built a radio set. Details have been kept down to a minimum, and construction simplified so much so that anyone will just about cover the circuit of parts. Most receiver has a set of

resistors, which will just about cover the circuit of parts. Most receiver has a set of resistors, which will just about cover the circuit of parts. Most receiver has a set of

This set uses a metal panel to which the condenser may be automatically grounded, consequently there will be no need for the "ground" switch.

While the metal panel and the worst bandpass each tube in use. The parts are mounted on the base with wood screws. Water

type condenser, requiring such a space, are used. The gridleak and grid condenser, of the mid-type, are mounted directly under the regeneration condenser.

The radio frequency choke is the latest low line type, consisting of 26 turns of No. 22 double cotton covered or enameled wire wound on a 1/2" bakelite form. You can

make your own choke by winding the same number of turns of wire from an old motor transformer on a 1/2" diameter wood bakelite or glass form. The 15 ohm diode resistor reduces the key coil

## Builder's Manual

### RADIO BUILDER'S MANUAL

by Modern Mechanix

reprinted by Lindsay Publications

"Complete plans for all-wave receivers, amateur transmitters, police call adapters, crystal sets, automobile radio, portable receivers, as well as hundreds of other radio plans, stunts, and trouble-hunting kinks."

This 1935 paperback provided builders with a convenient collection of the best how-to articles from back issues of Modern Mechanix magazine. You get dozens and dozens of plans and odds and ends such as Wheatstone bridge for test bench, smallest broadcasting station, build selenium electric eye, 1-tube shortwave marvel, build a heavy duty power supply, rejuvenating discarded dry cells, 3-tube tool box portable, cigar box receiver, auto aerials for 5-meter transceiver, smallest all-electric all-wave set, and on and on.

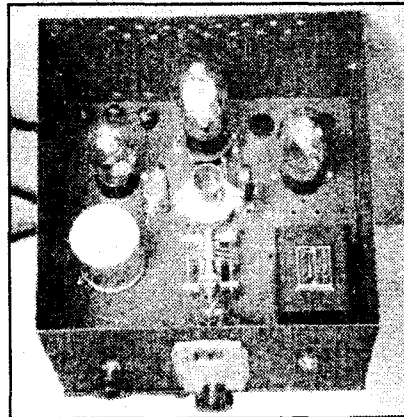
Includes *Powerful Crystal Set Brings in Distance*, *"This Electromagnet Does Mystifying Stunts"*, and *"Powerful 5-Meter Radio-phone Uses Broadcast Set Parts."* and much, much more! It's all vacuum tube technology, but still fun stuff to read. If you really want to build samples of this old time gear, you'll have lots of fun doing it. Order a copy today.

7x10 softcover 130 pages

No. 21168

\$9.95

## Those Great Old Handbook Receivers



### THOSE GREAT OLD HANDBOOK RECEIVERS

1929 & 1934 editions of Radio Amateur's Handbook reprinted by Lindsay Publications

These days you can buy an integrated circuit for less than a dollar that contains hundreds, if not thousands, of transistors and other components. You can build a phase-locked-loop FM detector almost as easily you can in 1920! Some people have found that fun lies in simplicity. They are actually rebelling against the high-performance high-tech and are rediscovering the high-performance low-tech world.

Building a vacuum tube regenerative receiver is a great adventure. Just two glowing vacuum tubes will fill your ears with foreign broadcasts, spy stations, ships at sea, amateur stations and more. And YOU build it. With electrical components as big as your fist! That oughta baffle the guy next door...

Here we've reprinted the chapters from the 1929 and 1934 ARRL Radio Amateur's Handbooks that will open up the lost world of regenerative receiver construction. You get the theory (as it was understood then) and the construction details: all the schematics, coil specifications, chassis photos, hints, tips and secrets.

From 1929 you get details on regenerative, heterodyne, and synchrodyne (direct conversion) detectors, modulation methods, tools, soldering, station arrangement and designing the receiver. Detailed are a two-tube regen (UX201A or UX199) with plug-in coils, a three-tube regen, three-tube regen with peaked AF amp, a four-tube regen (with RF amp), and details on operation. You also get a

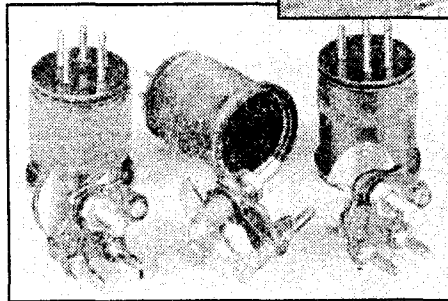
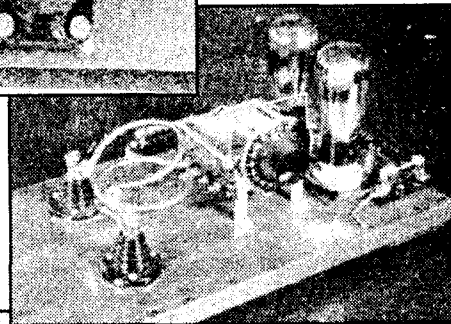
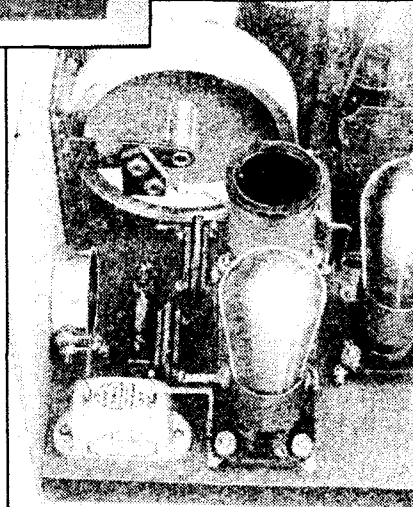
**Regeneratives • Early Superhets • Tube Charts • Schematics Construction Details • Power Supplies • VHF Gear • More!**

chart of specifications for 41 different tubes of the era.

From 1934 you get details on the latest receiver theory, a chart of 50 newest tubes with basing diagrams, and construction how-to. You get construction info on a two tube AC-DC regen receiver, a three-tube regen receiver (RF amp, detector, AF using 58's and a 56), an add-on chassis that

converts the three-tube into a superheterodyne, and schematics and photos of the National FB7A, the Hammarlund "Comet Pro", and the National AGSX receiver. There is also brief discussion of crystal filters, image rejection and superhet servicing.

You get 1934 info on ultra-high frequencies (56 MHz to 400 MHz back then), with construction info on an experimental oscillator using a couple of 10's, a single tube (30) superregenerative receiver,



a 56 MHz regenerative receiver, and more.

You will learn how to build a 1934 power supply using one of 14 different rectifier tubes. You'll even learn how to wind and rewind transformers to get the voltage you need.

This is great old how-to. Sure it's fun to etch a printed circuit and solder in a handful of components that cost only

pennies. But it's quite another thing to see those old bottles light up and get hot enough to cook your Christmas goose! You'll never experience it unless you build one of these machines. And this is a book, along with Rock's, that will put you in the middle of the old-time radio action.

Great book for builders, amateurs, historians, radio restorers, collectors, and radio nuts in general (that's you and me, son). Good stuff. Get a copy. 6x9 softcover 94 pages

No. 21710

\$8.95



## Ancient Radio Apparatus

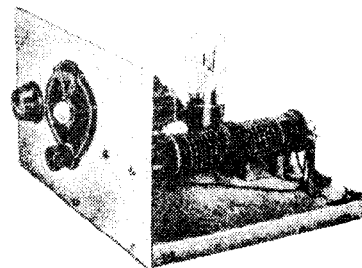
**OFFICIAL 1934  
SHORT WAVE RADIO MANUAL**  
edited by Hugo Gernsback  
& H W Secor  
new chapter by T. J. Lindsay

Build simple, high-performance old timeA shortwaver radios! You can. All of the secrets are here: the circuit diagrams, parts layout, coil specifications, construction details, operation hints, and much more.

Back in the 20's and 30's the only low-cost way of listening in on the newly discovered and fascinating short-wave radio frequencies was to build a set. Shortwave construction magazines flourished, even during the depression.

# Shortwave Radio Manual

**Incredible  
How-To,  
Reference,  
and a special  
new chapter  
on solid-state  
sets!**



This is a compilation of construction articles from "Short Wave Craft" magazine. It's wall-to-wall how-to.

**SECRETS OF OLD SETS!** At the rear of the book are circuit diagrams, photographs, and design secrets of all shortwave receivers being manufactured in 1934 including some of the most famous: SW-58, the SW-5 "Thrill Box", the deForest KR-1, the Hammurand "Comet Pro", and many more.

**BUILD SOLID-STATE SETS!** You'll find that all the circuits use tubes since transistors hadn't yet been invented. And you'll also find that the original tubes listed are usually difficult to find today. Included is a new chapter showing how you can use transistors to replace hard-to-find vacuum tubes. You'll even see the circuit that was lashed together on a table top one night using junk box parts, one of my wife's hair curlers and alligator clips. When I hooked it up to an antenna strung across the

basement ceiling and attached a 9 volt battery, signals started popping in like crazy. In a couple of minutes I heard an urgent message from a ship's captain off Seattle asking for a navigator to help him through shallow water. Not bad, considering I live near Chicago!

**HOT PERFORMERS!** These small regenerative receivers are extremely simple, but do they ever perform! I've built dozens of them, and they never fail to amaze me! Even master machinist, Dave Gingery has built these sets.

This is the nuts for the experimenter, the survivalist who is concerned about basic communication, shortwave listeners, ham radio operators who collect old receivers, and just about anyone interested in old-time radio.

Great book. Best old-time radio book I've ever seen. And I look at every one I can get my hands on. Consider it carefully. Even if you never build one of these radios, you'll get hours of enjoyable reading out of this book. Top rate. Order a copy.

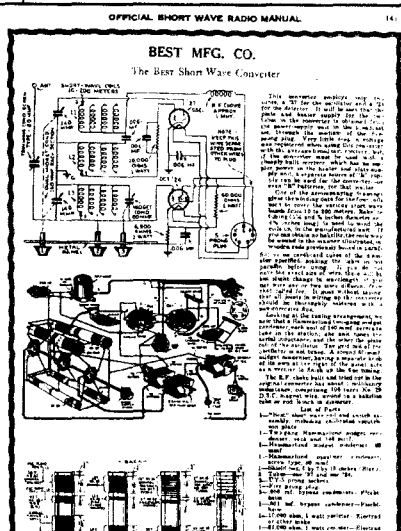
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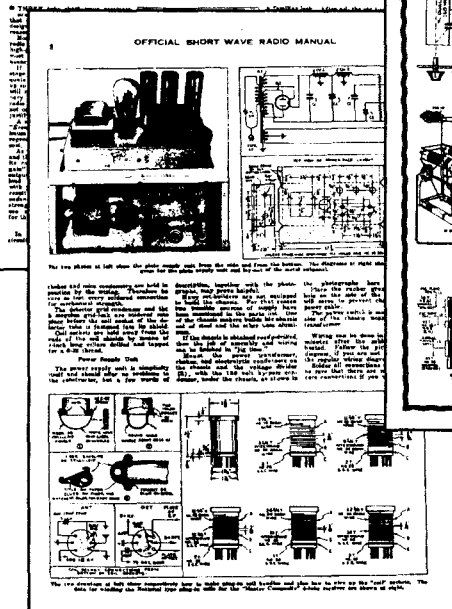


## The DENTON "ECONOMY THREE"

By CLIFFORD E. DENTON



## BEST MFG. CO. The Best Short Wave Converter



## "Rock" Agrees!

Dear Mr. Lindsay:

A good friend of mine has sent me a copy of your re-done Short Wave Radio Manual of 1934, the year, incidentally, that I first received my amateur license. So it takes me back most pleasantly to the days of my youth. That I have enjoyed perusing it very much goes without saying, I believe.

It was also pleasant to read your commentary upon building regenerative receivers at the back of the book. We agree perfectly upon the effectiveness of these devices. Indeed, it was the inception of this that first made practical, long-distance radio possible. A good, properly used regenerative detector may develop a gain of 30 decibels or more, equal to that of three non-regenerative cascaded stages.

But, as you know, one always gets only what one pays for. Buy a fancy, store bought receiver

and you pay for results with money. Build a "homebrew" regenerative job, and you pay for it in the effort of building and operating it with patience and care, two words that most people scarcely know any more...

Building and using regenerative receivers continues to be a pleasurable experience for me. I have tried to get some young fellows of my acquaintance into this sort of activity with negligible success; they'd rather spend daddy's money upon fancy, store-bought gear. They do not realize how much honest education and real, challenging adventure they're depriving themselves of by that attitude. Too bad...

You are doing your part to keep the great self-education process alive and well. Keep it up!

C. F. "Rock" Rocky

Don't miss Rock's book on secrets of regenerative receivers described elsewhere in this catalog. It's good.



## Ancient Radio Apparatus



## Build a 1932 TV Station!

*"a series of simple experiments with television apparatus and also how to make a complete home television transmitter and television receiver."*

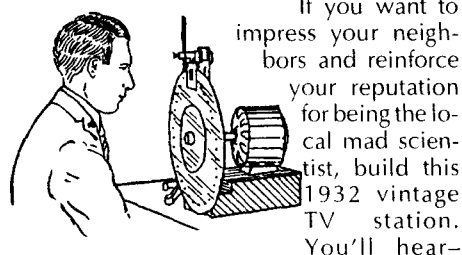
### EXPERIMENTAL TELEVISION

by A Frederick Collins  
reprinted by Lindsay Publications

Build yourself a 1932 television station using Nipkow scanning disks.

Chapters include experiments with light, with vision, with the scanning disk, with the photo-electric cell, with the amplifier tube, with glow tubes and neon lamps, with electric waves, with synchronism, with cathode rays and the oscillograph tube, how to make a television transmitter, and how to make a television receiver. And it comes complete with 185 illustrations by the author himself.

You'll learn how to fabricate the scanning discs, synchronize them, make a selenium cell (probably with dangerous, toxic chemicals), use synchronous motors, build vacuum tube circuits and much more.



*"How did you know how to do that?"*

Fascinating book. It's hard to believe that TV engineers even seriously considered mechanical scanning. Rare book. If you're lucky enough to find an original of this, it will cost you many times what I'm asking. Worth having. Order a copy today.

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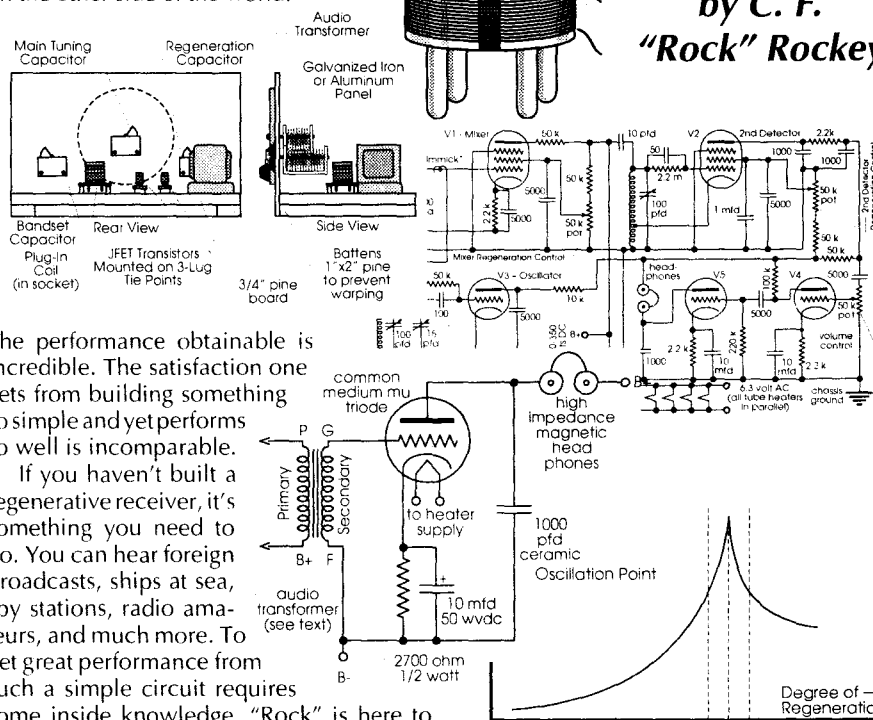
**reinforce your reputation as the neighborhood mad scientist!**

## SECRETS OF HOMEBUILT REGENERATIVE RECEIVERS

by C. F. "Rock" Rockey

People get really excited by the complexity of computers, and for good reason. But once the novelty wears off though, there is often an overpowering urge to build and operate something simple.

The very simple regenerative receiver is one of the most amazing devices ever conceived. With two tubes or transistors you can literally hear what is happening on the other side of the world.



The performance obtainable is incredible. The satisfaction one gets from building something so simple and yet performs so well is incomparable.

If you haven't built a regenerative receiver, it's something you need to do. You can hear foreign broadcasts, ships at sea, spy stations, radio amateurs, and much more. To get great performance from such a simple circuit requires some inside knowledge. "Rock" is here to teach you the secrets.

"Rock" started building radios as a kid about 1930, and has been an amateur radio operator since 1934. In the 1950's he wrote many radio construction articles for QST, Radio-News, Popular Electronics and Science and Mechanics Magazine. Now in retirement, he has put into writing many of the special secrets of regen receivers that took him many years to acquire. In effect, you can now learn what has become a lost art.

What you get here is how-to, radio history, philosophy, and the reminiscences of an "old-timer." You'll learn about crystal sets, grid-leak Audion detectors, and the regenerative detector and why it can perform so well. You'll learn about feedback techniques, good ones and the not-so-good, about coil winding techniques and rules-of-thumb, choosing and modifying capacitors, solving fringe howl, choosing headphones, keeping RF out of the AF stages, problems with hand capacity, and on and on and on.

He'll show you some of his favorite regenerative schematics such as the double twin-triode receiver, the pentode-triode receiver, the double regenerative, a field-effect version of the famous Doerle and more. You

## Secrets of Homebuilt Regenerative Receivers

by C. F.  
"Rock" Rockey

also get sample circuits and photos from the 1934 Shortwave Manual and very early QST magazines.

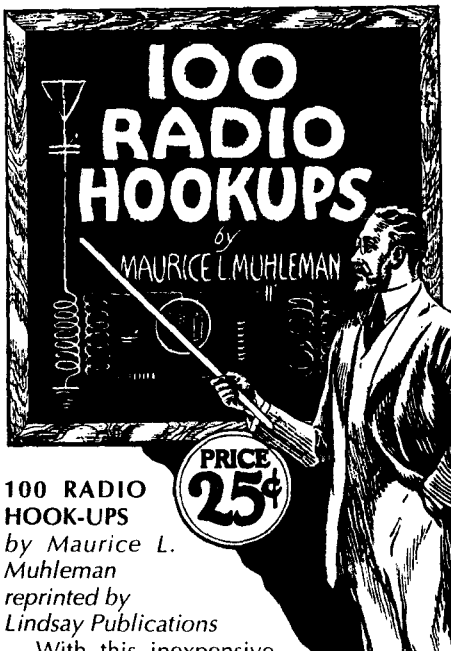
What you don't get is detailed info on building a particular set. That can be found in other books, especially in this catalog. What you get here are all the little things that have been left out of the other books, little things that can mean the difference between mediocrity and eye-popping success, especially if you're just starting out.

I've built a number regeneratives over the years. So has master machinist, Dave Gingerly. Rock has taught us some new tricks. The circuits he provides has me fired up to start building again (as if I don't have too many irons in the fire already...).

It was fun to get "Rock's" handwritten notes into print. I think you'll find this book fun to read and will refer to it many times as you build one regenerative receiver after another. This is a great book because it fills in the holes that exist in other radio books. Get a copy! 5 1/2 x 8 1/2 softcover 126 pages  
No. 21720

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## Ancient Radio Apparatus



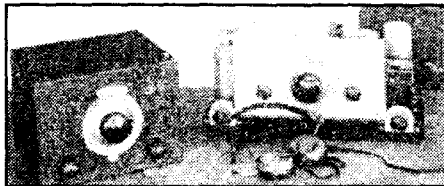
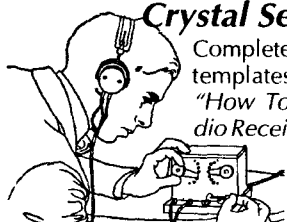
**100 RADIO HOOK-UPS**  
by Maurice L. Muhleman  
reprinted by Lindsay Publications

With this inexpensive and immensely popular 1920's booklet you can go back and discover both short- and long-wave radio all over again. You get 100 different circuit diagrams using triode vacuum tubes, honeycomb coils, variometers, A.F. transformers, B batteries and all the rest. You get hook-ups for crystal sets, plain vacuum tube sets, regeneratives, the famous Reinartz, improved Reinartz and other combination sets, RF amplifier sets, Neutrodyne, reflex circuits, super-regenerative, superheterodyne, and several miscellaneous sets. This was an idea book for people who had already built a radio and wanted to try something else.

I managed to "clean" up the original so that it would reprint reasonably well. It's not as sharp and clear as I would like, but I doubt that I will ever see another copy. I like it. Small, inexpensive and worth having! Order a copy! 5x7 softcover 48 pages  
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### Build the 1924 NBS Crystal Set Receiver!

Complete plans, parts lists, templates, and how-to in "How To Build Your Radio Receiver" described in our complete catalog.



## 1933 RADIO TECHNOLOGY

### SHORT-WAVE HANDBOOK

edited by Cockaday & Holze  
reprinted by Lindsay Publications

Radio News Magazine published this nifty book in 1933 to get people started in radio building.

Chapters include fundamental principles, helpful short wave data, how to make five simple short wave receivers, two advance short wave designs, popular commercially built SW apparatus, getting the most out of the short waves, short wave stations lists,

short wave DX & reception reports, learning the code, amateur transmitters, and ultra short waves.

Once you're through some of the basic theory of short wave communication, you'll build a basic two tube regenerative receiver, a hot three tube job with RF stage, a TRF with a regenerative detector and more.

You'll get introduced to the intricacies of the Lincoln R-9 receiver, the American Bosch Model 260 "Super", the Scott deluxe all-wave super, the Hammarlund Comet "Pro", the Midwest sixteen tube super, the incredible National FB-7 receiver and more.

This is a much better than average short wave book because it delivers details on building your own receivers as well as on commercially available sets. Get a copy. I think you'll like it. 5 1/2 x 8 1/2 softcover 136 pages

No. 21176

\$9.95

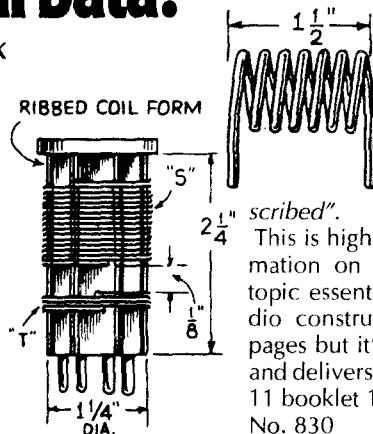
## Shortwave Coil Data!

### SHORTWAVE COIL DATA BOOK

by Radio Publications

Here in one jam-packed booklet from 1937 are hints, tips, charts to help the shortwave radiobuilder design and build the best coils possible. You get informative articles from Gernsback magazines such as •Coil Data for TRF Receivers •The One Tube Oscillodyne Coils •The Mono-Coil •2 Winding Coils for 10-500 Meters •Coils for a 3 Tube Band Spreader •and many others

You also get nine different cir-



cuit diagrams for the "Most Popular SW Tuning Circuits" and five "Transmitting Circuits employing the coils de-

scribed".

This is highly specialized information on just one important topic essential to successful radio construction. It's only 16 pages but it's quite inexpensive and delivers. Get a copy! 8 1/2 x 11 booklet 16 pages

No. 830

\$3.00

## Build a COIL WINDING MACHINE

shortwave circuits, a coil winder is worth having.

Dave will show you how to build a coil winder from common, easily-obtained materials. Although it may look complex, it really is not. You'll find that it is easy to build. You don't need to be a mechanical genius, or need expensive tools. Yet this amazing little machine will professionally wind universal and honey-comb coils, single layer and multi-layer solenoids, close-wound and space wound coils, and even pi-spaced coils such as used for RF chokes and transformers.

This is a typical Gingery how-to book—loaded with illustrations, dimensions, and step-by-step text that is so detailed it almost holds your hand! Excellent publication. A serious experimenter should have a copy of this and the winder it describes. Order a copy. It's excellent. 8 1/2 x 11 booklet 24 pages

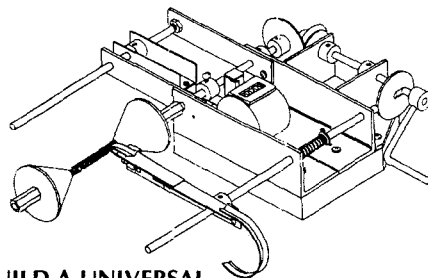
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\$8.95

### BUILD A UNIVERSAL COIL WINDING MACHINE

by David J. Gingery

Just a few years ago, experimenters could buy two or three simple hand-operated affordable coil winders. I haven't seen any of them advertised lately. You certainly can wind coils by hand, but if you're going to do any serious experimenting with old-time



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**CANADIAN CUSTOMERS** — Please remit in Canadian Postal Money Orders in US Dollars, Visa, Mastercard, or check drawn on a US Bank. We can't find a US bank than wants to handle checks from Canadian Banks. It must be a conspiracy!

**Phone Your Order In** — Call us at 815/935-5353 during normal business hours (nothing is ever normal when you're forced to work with Lindsay!) and we can get your order into the system immediately. (Best bet: call before 2 pm Central time)

**FAX Us Your Order** — Fax us all the necessary information at 815/935-5477. On line 24-hours.

**COD Orders** — COD's are sent UPS at a cost of several dollars more. (Lots more paperwork for UPS. It ain't cheap...)

**NEXT DAY AIR** — UPS Next Day is available if necessary. Books are heavy and this service can be quite expensive.

**SECOND DAY AIR** — UPS Second Day air (2-day delivery) costs less than next day air.

**PRIORITY MAIL** — First Class Mail (all 1st class mail is airmail) costs several dollars more depending on weight and is supposed to provide 3 day delivery to any zip code. (If you live in the South Pacific, don't hold your breath!)

**Regular Shipping** — Orders are normally shipped via Book Post (US Postal Service) or via UPS depending on the weight of the package.

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All books are guaranteed. If you find a book that doesn't meet your expectation, return it *immediately* for credit or refund. I don't expect you to keep and pay for a book you don't like. You don't have to explain, but if you do, it will help us improve the selection we offer.

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you really want. You'll find as tens of thousands of other people have, that the books we offer are so good, we don't really need to offer a guarantee. But we do anyway. You'll be satisfied. We guarantee it. There's no other way to do business.

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*Lindsay*

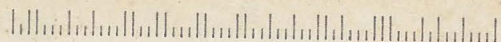


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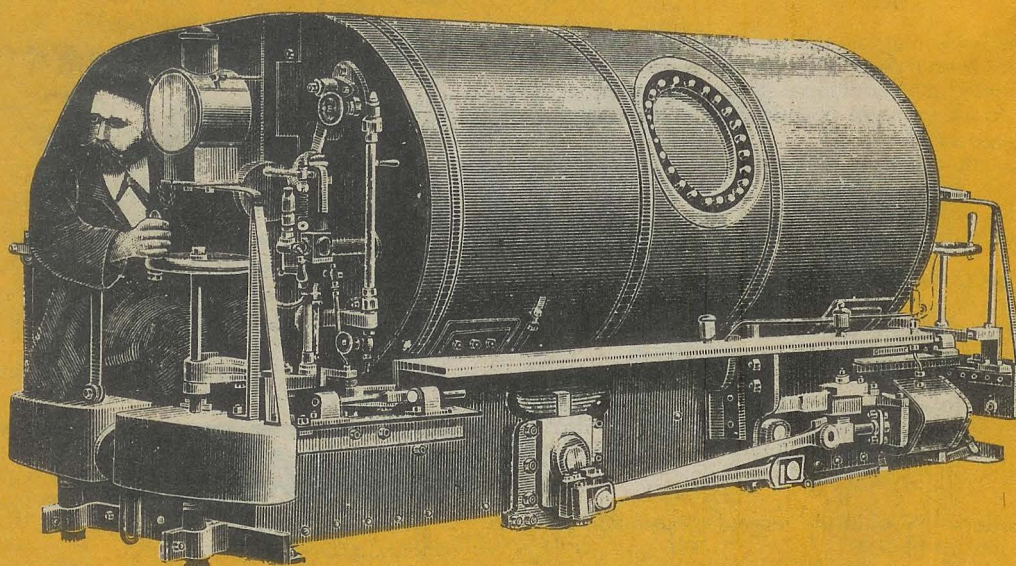
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## **Look out! Lindsay Built a Steam Powered Space Shuttle!**

Crackpot Lindsay took a boiler from a 1902 Baldwin locomotive and attached it to a low-slung steam engine driving spiked wheels. He's digging a 45° cylindrical tunnel in an Alaskan mountain. He figures that by loading the tunnel with 500 pounds of black powder and then packing his "space shuttle" into the tunnel he will have a crude cannon.

He calculates that detonating the powder will accelerate him to 3000 mph. If at the same time, he releases 2500 psi of steam pressure into the engines, he expects the wheels will dig into the sides of the tunnel and accelerate him to 17000 mph — escape velocity.

But Lindsay has only a third grade education. Our calculations show him achieving 8000 mph. That puts him in a wide arcing trajectory over Calgary, Minneapolis, and Boston with splashdown about 400 miles west of the Canary Islands.

We haven't told him about our calculations. And we're not about to. He thinks he's going to steal satellites and link up Mir. The fact is that all he's going to do is scare a lot of fish (if he doesn't get hit by a meteor along the way.) And we certainly aren't going to ask Dr. Ballard, discoverer of the Titanic and Bismarck, to go looking for him. We'll let him rust on the bottom of the Atlantic.

So if you see a streak in the sky followed by a tremendous splash, you'll know what's going on. It ain't a meteor, Superman, or some pie-in-the-sky promise from an "intellectually-deprived" Presidential candidate. Worse. It's Lindsay.

In the meantime. Order books from this catalog. We need the money. We've got lots of champagne to buy for the party. (We might even send you an invitation!)

Lindsay's  
Beleaguered Employees